



Universiteit van Pretoria  
University of Pretoria



GORDON INSTITUTE  
OF BUSINESS SCIENCE

# **Investigating the relationship between salutogenesis and organisation engagement in a manufacturing corporation**

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A research project submitted to Gordon Institute of Business Science,  
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of Master of Business Administration

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## ABSTRACT

This research aimed at the impact that salutogenesis (Antonovsky 1979) has on an individual's level of engagement (Kahn 1990) in manufacturing corporations in an emerging economy. While managers were becoming more aware of the importance of a positively engaged workforce, Breed, Cilliers and Visser (2006) have suggested that the understanding of what constitutes an engaged work force is lacking among managers in the emerging economies. In order to effectively investigate the relationship between these two positive psychological concepts, the focus has been to include the relationship between salutogenesis (Antonovsky 1979) as the parent concept and the salutogenic constructs Sense of Coherence (SOC), Locus of Control (LOC), Learned Resourcefulness (LR) and Hardiness. The impact that salutogenesis, (Antonovsky 1979) has on Organisational Engagement (OE) (Kahn 1990) and its facets Absorption, Dedication, Identification and Vigour (Schaufeli et al 2002) was revealed using a quantitative analytical technique and descriptive analysis (Zikmund 2003).

Using saturation sampling and an adapted Utrecht Work Engagement Scale (UWES) (Schaufeli and Bakker 2003), 422 employees working at the head office of a manufacturing corporation were surveyed.

The outcome of the research presented a strong case that there is a very high correlation between salutogenesis and engagement.

## DECLARATION

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration of the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other University. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

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Simon Sonn

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Date

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My heartfelt gratitude first and foremost must go to my Lord and Saviour who has been my guiding light not only through this process but in my life. Recognition must go to my wife Chantel and baby boy Elijah for their support, patience and love. Michael Goldman, my supervisor, has been inspirational in every way; he has provided me with the support and guidance that I needed. A big thank you must go to the “study group” and in particular, Kuben and Masha for their tireless support and friendship. To my Mother, Elvira and Mother-in-law, Joan, I wish to thank them for their constant prayers and support.

Finally, to the Sappi management and staff, thank you for supporting me to grow both in the organisation and externally.

## **ACRONYMS**

**GRR:** Generalised Resistance Resource

**SOC:** Sense of Coherence

**LOC:** Locus of Control

**OE:** Organisational Engagement

**UWES:** Utrecht Work Engagement Scale

**HOD:** Head of Department

**ROI:** Return on Investment

**CEO:** Chief Executive Officer

**OC:** Organisational Climate

**SA:** South Africa

**EVP:** Employee Value Proposition

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## **1. RESEARCH PROBLEM**

### **1.1. Introduction to Research Problem**

Corporations have shifted their focus towards engagement (Philips, 2009). According to Austin (2009), cited by Philips (2009), employees who are positively engaged tend to feel more positive about the future of the corporation which has a positive impact on its future survival. Organisational Engagement (OE) has been described by Kahn (1990) as the 'harnessing of corporation members' selves to their work roles'. Kahn (1992) later described OE as the behavioural drive into a mental state to be completely present.

According to Rothmann et al (2004) SOC, which is a construct of salutogenesis serves as a mediator between job stress and OE. Antonovsky (1979), who first coined the phrase salutogenesis, the parent concept of SOC, suggested that there was something about the psychological state of certain individuals that made them flourish despite being constantly exposed to a stressful environment.

OE surveys were being carried out by corporations around the world which suggested widespread concern about the level of engagement of their employees, but practitioners may lack an understanding of the underlying contributing factors of what stimulated engagement in the workplace (Strümpfer and Mlonzi 2006).

The research objective was to develop a deeper understanding of the two positive psychology concepts, salutogenesis and OE, and in order to develop a better understanding of the two concepts it was important to understand the constructs and facets of these two parent concepts.

According to Meisinger (2008), while it was enough of a challenge for corporations to find and keep employees who have the right skills, it was a different challenge to ensure that these individuals were engaged. Meisinger (2008) suggested that managers held the key to employee engagement, supported by a new world engagement survey that showed that one out of every seven employees was fully engaged at work.

Perrin (2009) suggested that while corporations have recognised that in order to ride the wave of difficult economic times, they needed to ensure that employees were positively engaged. He suggested that staff motivation schemes and incentives may not have been enough to stimulate engagement amongst employees and that there were in fact deeper underlying factors that determined an employee's level of engagement. Perrin (2009) emphasised the importance of ensuring that employees remained engaged, particularly at a time when it was easy to dismiss an employee's level of engagement focus as a distraction, and that corporations should instead focus on what was considered as more pressing business issues.

Within the corporation studied in this research, a number of OE surveys have been conducted to establish the level of engagement throughout the corporation. The OE survey feedback to all employees was largely focused on the level of engagement showing comparisons between divisions within the corporation which were useful to a certain extent, but few solutions or plans of action were offered as to how to improve an individual's level of engagement. This suggested that perhaps there was a lack of understanding amongst general managers about what constituted and drove engagement in employees in manufacturing corporations in an emerging market. The driving force behind these OE surveys was in response to the steep increase in retention problems and subsequent decline in Return of Investment (ROI) suffered by this corporation in recent years. By looking at an individual's psychological make-up, this study aimed at focusing on the underlying aspects that impacted an individual's level of engagement. If managers within this corporation could and would focus on the aspects which impacted engagement, it would potentially have alleviated the problem of staff retention.

This research report, therefore, focused on salutogenesis according to Antonovsky's (1979) definition and its relationship to its constructs as well as engagement according to Kahn's (1990) definition and its relationship to its facets. It also includes an examination of the relationship between the two positive psychological parent concepts, salutogenesis and engagement.

## 1.2. Research Purpose

The purpose of the research was to investigate whether there was in fact a relationship between salutogenesis and its constructs, OE and its facets and salutogenesis and OE. Based on the very nature of the salutogenesis construct, SOC (Antonovsky 1987), stress leading to burnout is considered the antithesis. The purpose of the study was to aid managers to have a more in-depth understanding of why certain employees suffer from stress-related burnout while others do not and, in fact, thrive in a stressful environment. The focus of the research was not on stress leading to burnout, but instead on the salutogenesis constructs as an independent variable which, cited by Johnson (2004), are SOC Antonovsky (1987), LR (Rosenbaum 1980), LOC (Rotter 1975) and hardiness, (Kobasa 1982). Cited by Breed et al (2006, p.75), Antonovsky (1987) defined SOC as “a global orientation that expresses the extent to which one has a pervasive, enduring, though dynamic feeling of coherence manifesting in certain experiences or dimensions”. Cited by Breed et al (2006, p75) Rosenbaum (1980) defined LR as “an acquired repertoire of mostly cognitive behavioural skills according to which one self-regulates an internal response”. Cited by Breed et al (2006, p76) Rotter, (1975) defined an internal LOC as the “extent to which one perceives that one has control over a given situation”. Cited by Breed et al (2006, p75) Hardiness has been defined by Kobasa (1979) as “a collection of personality characteristics that functions as a mediator and resistance resource in the encounter with stressful life events”.

Cited by Rothmann (2003), engagement (Kahn 1990) and the dependent variable in this research has been described as the harnessing of the individual's attitude to his or her work roles by focusing on three fundamental engagement facets or characteristics, i.e. absorption, dedication and vigour. More recently identification has been included as a fourth facet, describing an individual's alignment of values and objectives with a particular corporation (Guest 2009).

### **1.3 Research Scope**

The research scope focused on the head office of a manufacturing corporation in an emerging market. The employees who were based at the head office of this corporation were exposed to the same working culture environment and working conditions. The research methodology used involved descriptive analytical techniques using a quantitative research design. A survey was conducted in the form of an anonymous questionnaire using an adapted version of the Utrecht Work Engagement Scale (Schaufeli and Bakker, 2003). The questionnaire was adapted to accommodate questions on salutogenesis which were developed from the literature review (see Annexure 1).

## **2. LITERATURE REVIEW**

### **2.1 Salutogenesis**

#### **2.1.1 Definition of Salutogenesis**

The term “salutogenesis” (from Latin: salus = health, Greek: genesis = origin) was coined by a medical sociologist, Aaron Antonovsky (1979). Strümpfer (1995) suggested that the term “fortigenesis” (from Latin: fortis = strength and Greek: genesis = origins) would have been a more suitable phrase for what Antonovsky (1979) was proposing. Wolf and Ratner (1999) cited Antonovsky’s (1979) definition, emphasising that salutogenesis focuses on health promotion and disease prevention rather than the pathogenic origins of disease. He introduced the salutogenic framework to the scientific world, basing his theory on the fact that it was more important to focus on an individual’s resources and capacity to create health than on their risk, ill health and disease tendencies (Linström and Eriksson 2005). The key element of salutogenesis was to focus on problem solving and then to consider the resources available. Salutogenesis has become associated with man’s ability to thrive in the face of adversity, receive gratification from work and generate health (Antonovsky 1987). It has been further defined by Antonovsky as the study of the strength individuals have in order to manage the tension and stress in their lives and not to succumb to illness (Onega 1991).

Salutogenesis is a form of positive psychology which has been defined by Linley et al (2006) as the scientific study of optimal human functioning. According to Linley et al (2006) it aimed to redress the imbalances in psychological research and practice through positive aspects of human functioning and experience, while at the pragmatic level it was about understanding the processes and mechanisms that have led to desirable outcomes.

### **2.1.2 The Salutogenic Model**

While stress was not directly dealt with in this research report, it has been mentioned from time to time because of its antithetical relationship to the positive psychology constructs of salutogenesis as defined by Antonovsky (1979).

The main idea behind the salutogenic model developed by Antonovsky (1979) is that while stress is an inherent behaviour in human beings, there are individuals in organisations who have flourished in a stressful environment, and salutogenic thinking has inspired curiosity about why certain individuals cope successfully despite the presence of stress, while others do not.

Maddi and Kobasa (1984) suggested that the salutogenic functioning level of an individual determines how that individual dealt with stress. Salutogenesis has therefore been referred to as an antithesis for levels of stress in the workplace.

Antonovsky's (1979) answer as to why some individuals managed to maintain psychological health has been expressed in the concept of Generalised Resistance Resources (GRR) from the basis of understanding the salutogenic model. According to Antonovsky (1979), individuals developed GRR through life experiences. GRR was referred to as any characteristic of the individual, group, subculture or society that facilitates effective tension management (Antonovsky 1979). Antonovsky (1987) emphasised that in order to provide individuals with a GRR of which a resource was its most fundamental property, the individual had to have a pervasive orientation called a "Sense of Coherence" (SOC).

According to the model, an individual's position and direction of movement on the scale is determined by stress, which is seen as an opposing force to the strength of an individual's SOC (Antonovsky 1987). According to Antonovsky (1987), SOC was one of the independent yet related salutogenic constructs; the other constructs included LR (Rosenbaum 1980), LOC (Rotter 1975) and hardiness, (Kobasa 1982). The salutogenic constructs were useful in corporations for at least three reasons. First, it took into consideration factors that were focused on well-being; secondly, it focused on factors that strengthened an individual's position against disease which could have been addressed both from an individual and society level; and, finally, it focused on the corporation's influences that caused tension (Taylor 2004).



### **2.1.3 The Salutogenic Constructs**

Since Antonovsky's first public statement of the salutogenic orientation in 1979, there have been a few more elements that have been added to the salutogenic framework along with SOC. These constructs were developed prior to Antonovsky's (1987) SOC theory, but have later been categorised under the umbrella of "salutogenesis" (Strümpfer, 1990).

#### **2.1.3.1 Sense of Coherence**

A sense of coherence (SOC) has been defined by Antonovsky (1987, p.47) as a "global orientation that expresses the extent to which an individual has a pervasive feeling of confidence that the motivation deriving from that individual's internal and external environment in the course of living are structured, predictable and explicable".

According to Antonovsky (1987), an individual's SOC should not be confused with a style of coping, but rather that SOC provides a selection for a strong strategy of coping with stress. According to Strauser and Lustig (2003), individuals with a higher SOC were better able to make the necessary adjustments in life to be stable and productive individuals. This had a positive impact on the individual's

work personality and work competencies based on the individual's interaction with the environment. Strauser and Lustig (2003) have cited Antonovsky's (1987,1991) theory that there were three key personality characteristics: firstly comprehensibility, which was the individual's ability to make sense of the stimulus in the environment; secondly, meaningfulness, which was the individual's ability to identify emotionally with events; and, finally, manageability, which was the individual's ability to cope with the stimulus with available resources. Individuals who had a high SOC had the tendency to enjoy greater health than those with a low SOC (Hakanen et al 2006).

Strümpfer and Mlonzi (2006) suggested that individuals who had a high level of SOC could have had access to an array of resistance resources for coping with life challenges and dealing with them without too much harm. They emphasised the notion that when these resources were frequently available during their development, a strong SOC developed.

According to Kalimo and Vuori (1990) and Pallant and Lae (2002) a further important element of SOC was self-esteem. Sagy and Antonovsky (2000) found that individuals who played an active participatory role in decisions and who had emotional closeness to family members from childhood developed a high SOC. The active role of self-esteem emerged when the sense of self-worth was dependent upon achievements. Self-esteem was therefore earned by being

competent and feeling appreciated in the organisation (Forsman and Johnson 1996). Cited by Johnson (2004), Kalimo and Vuori (1990) suggested that a high level of SOC was manifested in an individual's self control and perceived control over life events.

The three key personality characteristics of SOC – comprehensibility, manageability and meaningfulness – as defined by Antonovsky (1987) were not dealt with in too much detail in this research report but it was necessary for them to be explained to provide a better understanding of SOC as the parent factor.

According to Strümpfer (1990), the component of comprehensibility was those events that an individual was faced with and perceived as making cognitive sense, and the individual who scored high on comprehensibility had a tendency to expect future events to have been predictable, orderly and explicable. According to Strauser and Lustig (2003), such an individual found order and structure in events. Without an order and structure seeking attitude the individual would miss important cues in the environment that were necessary for work competency and personality development.

According to Antonovsky (1987), cited by Strauser and Lustig (2003), manageability was characterised by good balance. It was the individual's perception that whatever came his or her way could be managed by adequate

resources at his or her disposal, either under the individual's control or through the resources controlled by other supporting individuals or the corporation. Strauser and Lustig (2003) went on to say that individuals with a high sense of manageability viewed the world as a place where challenges presented by the environment could easily be managed.

According to Antonovsky (1987), unlike the first two components of SOC, meaningfulness was a move away from cognitive emphasis and focused on the role that an individual played in determining his or her own destiny. Life was meaningful to individuals who scored high on meaningfulness. Strauser and Lustig (2003) have supported this theory by emphasising the fact that individuals with a high sense of meaningfulness viewed life's challenges as worthwhile. These individuals became inspired and energised by being presented with difficult tasks. The motivation that came with having a high level of meaningfulness was necessary for both the initial development of work competencies and the continued show of work-related behaviour.

### **2.1.3.2 Learned Resourcefulness (LR)**

Rosenbaum (1980) developed the term "learned resourcefulness" (LR) which was believed to be the individual's effectiveness of coping skills training through self-regulation. Rosenbaum's theory was that when individuals acquired coping skills,

they developed a sense of LR which referred to an individual requiring a repertoire of behaviours and skills by which he or she could self-regulate internal events such as pain and emotions.

It was further categorised as a sense of complex behaviours, cognitions and affects that were in constant interaction with the individual's physical and social environment which also provided the basis for further learning (Strümpfer, 1990).

Cited by Akgun (2004), Rosenbaum and Jaffe (1983) stated that LR included four aspects, which were: the tendency to delay immediate gratification, perceived self-efficacy, the use of self-statements to control emotional responses, and the application of problem solving strategies. Self-efficacy referred to a person's beliefs about whether he or she could cope with a situation effectively (Bandura 1977). The four categories of self-control identified by Bandura (1977) were supported by McWhirter (1997) who stated that individuals who had a higher sense of LR had an understanding that in order to change the way they felt, they had to change the way they thought, so by thinking pleasant thoughts, they were able to transform their thought.

According to McWhirter (1997), individuals were able to develop a higher level of LR by changing the way that they organised their daily tasks. While time management theory emphasises a view that it is more practical and logical to

tackle the pressing, more urgent tasks first, McWhirter (1997) argues that it might be better to tackle the more pleasant tasks that an individual enjoyed before moving on to the tougher, more draining tasks, provided that important deadlines were not missed, and that this approach did not result in negatively impacting performance due to inefficiency.

### **2.1.3.3 Locus of Control (LOC)**

According to Strümpfer and Mlonzi (2006), LOC can be described as an individual's perception of the amount of control that he or she may have which determines his or her ability to identify a need for a solution and the ability to find that solution. Rotter (1966) described LOC as the degree to which an individual developed the expectancy that his or her behaviour was associated with either internal or external reinforcements. People who had an internal LOC believed that they controlled their behavioural outcomes and had control in most situations, while people with an external LOC believed that situations were controlled by fate or external forces (Rotter 1966).

Individuals who were subjected to extreme poverty or certain situations of physical disability or feelings of disempowerment were very common and were said to have external LOC (Houser et al 2000). Houser et al (2000) went further to say that sometimes situations were even out of the comprehension of these individuals,

which resulted in an external LOC. MacDonald (1971) viewed powerlessness and external LOC as synonymous terms.

Rehabilitation interventions could assist in refocusing the external LOC to a more internally focused LOC and perceptions of efficacy towards a more positive orientation (Breeding, 2008). Supporting Rotter's (1966) external and internal locus of control theory, Källmén (2000) argued that individuals who had an internal LOC were usually more sensation-seeking while individuals with an external LOC were more risk averse. Therefore individuals who had a higher internal LOC may have appeared to be more enthusiastic about taking on tasks and to be more motivated and engaged.

According to Boone et al (2005), people who had an internal LOC perceived themselves as active agents, while individuals who had an external LOC perceived themselves to be passive agents. Studies that looked into corporations led by CEOs who possessed a higher internal LOC tended to perform better than corporations led by CEOs who had an external LOC (Boone et al 2005). In a team environment, individuals who had an external LOC felt like mere pawns in a complex environment while individuals with an internal LOC felt as though they were masters of their own fate and usually appeared to be more engaged due to their desire to be more acquiring of information. They also made more attempts at

acquiring information and were better at utilising and retaining information than individuals who had an external LOC.

#### **2.1.3.4 Hardiness**

Hardiness has been defined by Kobasa (1979) as a composite of commitment, control and challenge. Her theory was that while these three components gave individuals the ability to rise to the challenge in a particular environment and turn a stressful life event into an opportunity, the absence of these three components would have resulted in burnout.

Citing Sagie and Kozlowski (1994), Cole et al (2004) have established that in times of organisational uncertainty individuals tended to have an increased need to be part of the work process, and that there was a deeper need to feel a sense of commitment, control and challenge.

Individuals who generally experienced a high level of stress without falling ill had a personality structure that differentiated them from individuals who became ill under stress. Stress in the work environment is a common element that managers are faced with, and its complexity made it almost incomprehensible. What some individuals may have considered a stressful environment, others may not have and would have thrived in this kind of environment.



According to Lambert and Lambert (2003), a stressful workplace became a breeding ground for behavioural health problems. Hardiness was the behavioural construct that helped the individual manage stress, and it was the positive nature of the hardy personality which was accompanied by a high level of self-confidence due to coping styles that would have reflected the individual's belief in his or her own effectiveness (Kobasa and Puccetti 1983)

According to Maddi and Kobasa (1984), hardiness was a general quality that emerged from rich, varied and rewarding childhood experiences which manifested itself in feelings and behaviours that were characterised as commitment, control and challenge.

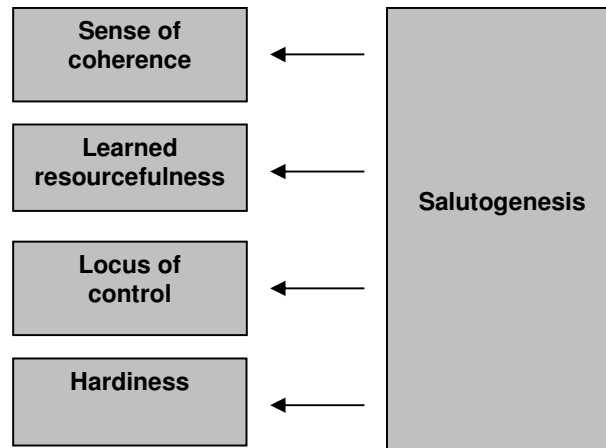
Even though these characteristics were not dealt with in too much detail in this research report, it was important to mention them to establish a greater understanding of the hardiness constructs.

Even in the presence of high levels of stress, commitment was the driving force that would enable an individual to achieve a set goal. Individuals who possessed a higher level of hardiness were more committed to completing tasks and appeared to be more engaged than individuals with a lower level of hardiness (Kobasa, 1979).

Control has been described as the ability to feel and act as if an individual was influential in the face of the varied complexities of life (Kobasa, 1979). Individuals with a higher level of hardiness appeared to act as if they were in control and therefore appeared to have been more engaged than individuals who possessed a lower level of hardiness, who generally appeared to have been more passive in nature.

Individuals who had high levels of the challenge characteristics were more driven by the belief that change rather than stability was normal in life and that the anticipation of changes represented interesting opportunities and potential growth rather than threat (Kobasa et al 1982). Individuals with a higher level of hardiness appeared to thrive when challenges presented themselves and therefore appeared more engaged than individuals with a lower level of hardiness who instead became anxious when challenges were presented. These individuals possessed a preference for repetitive and stable tasks rather than change.

Figure 1 below illustrates the salutogenic model and its relationship to the four constructs.



**Figure 1**

### **Summary**

Antonovsky's (1979) salutogenic theory has emphasised a focus on health promotion and disease prevention rather than the pathogenic origins of disease. While Antonovsky has worked extensively in the medical field, studying the psychological behaviour of health care workers, researchers such as Strümpfer (1995), Strauser and Lustig (2003), Linley et al (2006) have studied the salutogenic concept and its constructs focusing on various other sectors as well. The constructs of salutogenesis, which included SOC (Antonovsky 1987), LR (Rosenbaum 1980), LOC (Rotter 1975) and hardiness (Kobasa, 1982), were

psychological resources that were available to individuals that ultimately determined their ability to deal with work and life challenges.

## **2.2 Organisational Engagement**

### **2.2.1 Definition of Organisational Engagement**

According to Macey and Schneider (2008) the relationship between engagement and its facets and the possible causes, of which the proposed salutogenesis may be one, has not been rigorously conceptualised and has been much less studied. OE has been described by Kahn (1990) as the “harnessing of corporation members’ selves to their work roles”. Kahn (1990) stated that individuals who were engaged expressed themselves physically, cognitively, emotionally and mentally when performing work tasks. Citing Erickson (2005), Macey and Schneider (2008) OE were both attitudinal and behavioural components which connoted enthusiasm, passion, involvement and energy. These traits inspired dedication, absorption, identification and vigour (Fleck, 2007).

Philips (2009) has highlighted how important it was for corporations to shift their focus towards engagement in the workplace. He has cited Jonathan Austin, CEO of Best Companies, who said that employees who felt involved and committed to their corporations felt more confident about the future of their corporations,

particularly during the economic downturn, and how this has put the corporation in the best position to survive uncertain times. According to Meisinger (2008), fully engaged employees went beyond expectations and brought not only their abilities to the enterprise but also their creative potential, and every manager could help create an environment that fostered the right level of engagement. Widely described as the opposite of stress-related burnout, OE is a multidimensional construct which has been seen as an individual's positive state of mind towards his or her work and was categorised by vigour, absorption, dedication and identification (Maslach et al 2001, Schaufeli et al 2002).

Guest (2009) described engagement as a psychological state that employees were in when they were performing their daily tasks. Guest (2009) suggested that employees who were engaged were more likely to work harder and go the extra mile. Guest (2009) also suggested that engaged individuals had a tendency to be more creative and a tendency to stay, which saved the organisation recruitment and training costs. Added to cost savings, employees who were engaged had a tendency to add more value through their day-to-day contributions.

Guest (2009) identified two implications of engagement: Firstly, engagement was not necessarily stable over time; employees who were described as being engaged were simply engaged more often than employees who were described as not being engaged. When testing employees' level of engagement, they should

have been asked how often they were engaged rather than whether they were simply engaged or not (Guest 2009).

Secondly, there were factors in the corporation that could have affected engagement in both a positive and negative direction and to have understood those factors would have played a significant role in managing engagement (Guest 2009).

It was important to understand the facets of engagement to understand the drivers of engagement. According to Fleck (2007), cited by Guest (2009), the four factors of engagement covered the full spectrum of the cognitive, emotional and physical aspects of the psychological investment. These facets were absorption, vigour, dedication and identification.

According to Van Der Merwe (2009), health coaching was the next step in high performance. Van Der Merwe (2009) highlighted the importance of corporation's using health coaches to assist employees to manage stress while focusing on human well-being of the mind, body, emotions and spirit. According to Van Der Merwe (2009) stress could be both positive and negative. Stress was perceived as positive when it sparked personal achievement or life enjoyment. Stress had the ability to spark enthusiasm, creativity, productivity and motivation. Unfortunately

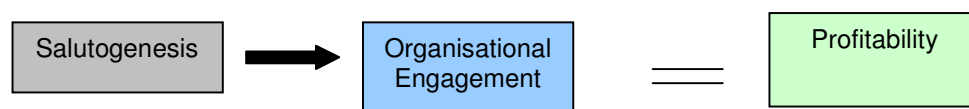
stress could spiral out of control, which would then have been transformed into negative stress (Van Der Merwe, 2009).

According to Van Der Merwe (2009), stress was not the preserve of executives and managers only but all employees in a corporation were subjected to stress in one way or another. Van Der Merwe (2009) had also highlighted that stress has been heightened in South Africa by crime, violence, problems with infrastructure, and many other elements that employees were exposed to which may have suggested that there were different drivers of stress in and outside of the corporation.

If there was a highly correlated relationship between the constructs of salutogenesis and the facets of OE, the question would have been, “whether managers were engaged and whether they understand why their subordinates were or were not engaged?” According to Perrin (2009) managers in emerging market corporations needed to clearly understand what the drivers of engagement were so that better, more effective, people-related decisions could be made. With this understanding, managers could make calculated decisions that would result in a higher level of corporation commitment which, in turn, would result in a higher level of performance.

This research report did not focus on profitability as an outcome of employee engagement but it was considered important to emphasise the observation that employee engagement drove bottom line results (Macey and Schneider 2008). According to Thomas et al (2006), who cited Judge and Bono (2001), Spector (1982) demonstrated that the relationship between LOC and profitability has been a bit more complex than what was later suggested by Macey and Schneider (2008), based on the fact that individuals with an internal LOC have the tendency to leave their employers.

The proposed link between salutogenesis and OE suggested by various researchers such as Rothman (2003), Schaufeli and Bakker (2001) ,and an outcome of profitability as suggested by Macey and Schneider (2008) is illustrated as follows:



**Figure 2**



### **2.2.2 The Organisational Engagement Model**

According to Kahn (1990), individuals were engaged in their work tasks because they identified with the task and the values of the corporation. He stated that a dynamic relationship existed between the individual who drove his or her personal energy into the work that they did. Kahn (1992) differentiated the concept of engagement from a psychological presence by describing engagement as a behaviour that drove energy into an individual's work which manifests itself in that psychological presence. Kahn (1992) described OE as the behavioural drive into a mental state to be completely involved.

Rothbard (2001), inspired by Kahn (1990, 1992), had a slightly different perspective on engagement by supporting the view that engagement was a two-dimensional motivational construct. On the one hand it focused on an individual's attention, which was described as the amount of time and effort that an individual placed in his or her work role. On the other hand it focused on absorption which has been described as the intensity with which an individual executed his or her work role or activity. Organisational engagement included an energy dimension at a high level and an identification dimension which has been characterised as a strong sense of identification or affiliation to an individual's work and the organisation as a whole (Bakker et al 2008).

### **2.2.3 The Organisational Engagement Facets**

According to Schaufeli and Bakker (2001) the core facets of OE are vigour and dedication, with absorption being more of a relevant facet of OE. Guest (2009) has suggested the inclusion of Identification as a fourth facet of engagement. While the identification facet is not recognised widely and is far less studied in the context of OE, it is a critical facet as it focuses on the individual's alignment characteristics with those of the corporation.

#### **2.2.3.1 Vigour**

Vigour is characterised by an individual's high level of energy and mental resilience while in the work environment performing work tasks, even in the face of difficulty at times (Schauffer et al 2002). Vigour and dedication have been at directly opposing poles to cynicism and exhaustion, which have been the two core symptoms of burnout. Sonnentag and Niessen (2008) have cited Shirom (2004), saying that vigour has been an effective facet that referred to an individual's experience of energy and aliveness. It has also been argued by Sonnentag and Niessen (2008) that vigour stimulated creative, proactive and other forms of extra-role behaviour at work. Individuals with higher levels of vigour had a tendency to deal with stress better than individuals who did not have high levels of vigour.

### **2.2.3.2 Dedication**

Dedication is characterised by a sense of significance, an individual taking pride in what he or she has done, being inspired, enthusiastic and having thrived when confronted with work related challenges (Schauffer et al 2002). Dedication was directly linked to an individual's sense of identification with his or her role and with the organisation's values. Individuals who had a high level of Antonovsky's (1987) SOC appeared to be engaged more often than individuals who had a low SOC.

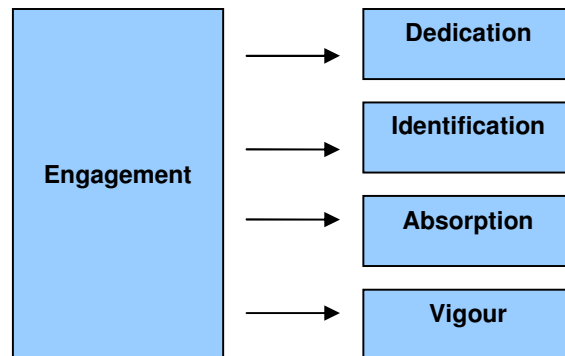
### **2.2.3.3 Absorption**

Absorption is characterised by an individual being deeply engrossed in his or her work, with full concentration, allowing very little outside interference and experiencing difficulty in detaching him or herself from work roles (Schaufeli and Salanova 2007). It appeared to be true that individuals who possessed an internal LOC have higher levels of absorption than individuals who have an external LOC. The more active agents had a tendency to be more engrossed in their contribution to the corporation and therefore appeared to be more absorbed in their work function.

#### **2.2.3.4 Identification**

Identification (Fleck 2007) was later included as a facet of engagement and was included in this research report for the purpose of understanding its link to engagement. Identification is about employees having a sense of feeling that they are part of the corporation and they can identify with and understand why the corporation is moving in a certain direction (Fleck, 2007). According to Kahn (1990), employees felt a strong sense of alignment between their values and the values of the corporation that they were working for. This in turn strengthened the psychological contract between the individual and the corporation. The individual believed, supported and identified with what the corporation was trying to achieve. According to Strümpfer and Mlonzi (2006) the very definition of organisational commitment which was synonymous with engagement referred to the relative strength of an individual's active identification with the corporation.

Figure 3 below illustrates the Engagement Model and its relationship to the four constructs.



**Figure 3**

### **Summary**

Kahn (1990) described OE as the relationship that an individual has had with the work that he or she did. Other researchers such as Rothbard (2001), Schaufeli et al (2002), Shirom (2004) and Schaufeli and Salanova (2007) have studied the impact that engagement has had on the performance of the corporation by honing in on the facets of engagement as it was originally identified by Kahn (1990). These facets included an employee's dedication, absorption and vigour and for the purpose of this research identification has been included as a fourth facet based on its inclusion in studies by Fleck (2007), Guest (2009) and South African researchers Cilliers and Kossuth (2002) and its significant relevance to the research problem.

### **2.3 The Link between Salutogenesis and Engagement**

According to Rothman (2003), citing Schaufeli and Bakker (2001), Turner et al (2002), the place of work stimulated negative and positive feelings; negative because on the one hand it required effort and restricted freedom, and on the other hand it created feelings of positivity through generating energy and enabling development. While Antonovsky (1979) introduced the concept of salutogenesis to explain the origins of well-being, Strümpfer (1995) has argued that focus should also have been placed on the nature, manifestations and ways to enhance psychological well-being (Rothmann, 2003). Strümpfer (1995), cited by Rothmann (2003) has suggested that psychological strengths create tendencies that are favourable to work engagement. These strengths include SOC and internal LOC. Rothmann (2003) has cited various other researchers like Basson and Rothman (2002), Levert et al (2000), Rothmann and Jansen van Vuuren (2002), and Wissing et al (1992), suggesting that there was a positive correlation between SOC, and internal LOC and OE.

Rothmann et al (2004), cited by Schaufeli and Bakker (2001), have stated that while there are individuals who regardless of their work or job demands and the long hours that their job may require, still showed very few signs of burnout or weariness. Such individuals could have been described as engaged in their work

from a positive psychology perspective (Seligman and Csikszentmihalyi 2000,, cited by Rothmann et al, 2004).

According to Strümpfer and Mlonzi (2006), engagement referred to the relative alignment that an individual actively identified with their corporation. They recognised that the individual had a strong belief in the values of the corporation and was willing to exert considerable effort on its behalf. The individual showed a strong intention of remaining employed by the corporation. Cited by Strümpfer and Mlonzi (2006), Mowday et al (1982) have stated that employees felt a sense of connectedness to a corporation so strong that they showed little intention of leaving in the short term. Porter et al (1982) cited by Strümpfer and Mlonzi (2006) supported the view that employees demonstrated strength and alignment characteristics that suggested that they were more globally long-term focused rather than looking at a short-term exit from the corporation.

Strümpfer and Mlonzi (2006) emphasised Antonovsky's (1987) theory that SOC is about an individual's psychological strength, and while work provided important endpoints of well-being, they investigated the relationship of SOC to OE. To this end, Stümpfer and Mlonzi (2006) conducted three studies to test this relationship. In the first study a random sample of 234 consultants in a life insurance company were surveyed; in the second study a sample of convenience of 141 participants was obtained through people managers from various companies, and in the third

study a saturation sampling of all the academic staff at a historical African university were mailed questionnaires. The study showed that there was a high and significant correlation between SOC and engagement in the first two studies, but not in the third.

Strauser and Lustig (2003) were interested in the relationship between SOC and work adjustments. Work adjustments have been described by Hershenson (1996) as the process during which an individual developed the overall skills and abilities to meet the demands of the work cognitively, emotionally and physically. Citing Liptak (2001), Strauser and Lustig (2003) suggested that individuals often experienced difficulty on the job that altered their career paths because of problems associated with having met the behavioural demands of the job. Strauser and Lustig (2003) therefore suggested that having high levels of SOC would assist individuals to make the adjustment a lot easier, which in turn would result in employees' being engaged more frequently. According to Strauser and Lustig (2003), citing Hershenson (1996), individuals with disabilities were the only ones who have a lot of attention regarding their work adjustment abilities. According to Houser et al (2000), citing Rotter (1966), individuals with disabilities had an inherent external LOC. LOC (Rotter 1966) is a construct of salutogenesis (Antonovsky 1979) which has further highlighted the link between salutogenesis, (Antonovsky 1979) and OE (Kahn 1990).



According to Strauser and Lustig (2003), work adjustments were highly based on the relationship individuals had with their work environments. Citing Hershenson (1981), Strauser and Lustig (2003) have stated that the individual could have been conceptualised as consisting of three domains. Firstly, an individual's work personality developed from their pre-school years and family influence. It was at this fundamental stage that the individual's attitude towards work was formed. Secondly, during the formal school years, the work competencies have started to develop. Thirdly, before the individual left the formal school settings the work goals were crystallised. Hershenson (2001), cited by Strauser and Lustig (2003), suggested that individuals should have set goals that were realistic, and consistent with their work personality and competencies. They went on to say that work adjustments were directly associated with the interaction between the individual's traits and the work environment. Further, the interaction between the individual and the work environment together made up three components of work adjustment. Firstly, work role behaviour and dedication (Schauffer et al 2002)., Secondly, task performance which was inspired by vigour and absorption (Schauffer et al 2002), and thirdly, work satisfaction through which engagement was fostered.

Strauser and Lustig (2003) conducted a study hypothesising that there was a significant and positive relationship between SOC and work personality and work competencies, suggesting that if the relationship existed then SOC could have

been conceptualised as a variable that provided a basis for strengthening work adjustments. Sampling 156 undergraduate college students, Strauser and Lustig (2003) established that there was support for the hypothesis that individuals who showed high levels of SOC had high levels of work personality and competency.

According to Kobasa (1979), cited by Hanton et al 2003), hardiness which was a construct of salutogenesis (Antonovsky 1979) was composed of three elements, one of which was commitment. Commitment was the individual's ability to persist with whatever he or she was doing and believing in his or herself to achieve a goal, sometimes in the face of adversity. According to Schaufel et al (2002), dedication, which was a facet of engagement (Kahn 1990) is defined as a work characteristic whereby an individual takes pride in what he or she does and is inspired by and thrives on work challenges. By pure definition, commitment was synonymous with dedication which suggested a close link between the two constructs.

Rothmann et al (2004), citing Beck (1997), Clark (1999), Wells-Federman et al (2001), stated that everyone appraised situations differently and that this has determined the perceived intensity of a stressor. Therefore a salutogenic appraisal would have provided opportunities for coping with a situation a lot better than in the case of an individual who had a pathogenic appraisal which would have led to a vicious cycle of stress (Rothmann et al 2004).

In a study performed on managers in a manufacturing industry by Jansen van Vuuren and Rothmann (2002), and cited by Rothmann et al (2004), SOC mediated the relationship between job stress and work engagement. Rothmann et al (2004), citing Nelson and Simmons (2003), have proven through research on the topic that employees with a high SOC were more engaged at work due to the fact that the stimuli from the environment were perceived to be comprehensible, meaningful and manageable.

Employees who had a weak SOC had a tendency to experience life events as unmanageable, disorderly and unstructured, which translated into an individual developing a sense of non-engagement due to feelings of frustration and lack of resources needed to meet the work demands. Antonovsky (1987) described individuals with a weak SOC as those who believed that life did not make sense on an emotional level. According to Sonnentag and Niessen (2008), citing Frese and Zapf (1994) and Hockey and Earl (2006), stress in the workplace which results in work overload tends to threaten the individual's level of vigour which could have an impact on the individual's level of engagement.

Antonovsky's (1987) thoughts on SOC were supported by Strümpfer who felt that work experiences actually strengthened an individual's SOC and that this would have led to an employee being more productive in their performance, which would

have lead to recognition, reward and promotion (Strümpfer 1990). According to Strümpfer (1990), the notion is that individuals who had a high SOC were therefore engaged when at work and performing work tasks. They performed well and were rewarded, which further strengthened their SOC. A strong SOC included a solid capacity to judge and see reality and was often taken to mean that the individual felt in control, which has therefore been associated with the concept of an internal LOC (Antonovsky 1979, p.123).

Breed et al Visser (2006) have cited Rothmann (2003) as saying that engagement could in fact have been seen as a construct of salutogenesis, and further cite Strümpfer (1995) who supported Antonovsky's (1987) theory that some work experiences strengthened an individual's salutogenic functioning which encouraged job involvement and commitment to the corporation.

Naudé and Rothmann (2006) conducted a study to assess the relationship between SOC, occupational stress, burnout and work engagement. The motivation for the research was to establish whether SOC moderated the effects of work engagement. Using the UWES, Schaufeli and Bakker (2003), the results showed that a weak SOC predicted emotional exhaustion and a disconnection. A strong SOC predicted personal accomplishment and work engagement. Emergency workers were surveyed; they were targeted on the basis that they constantly dealt

with injury, mutilation and sometimes death (Vettor and Kosinki 2000, cited by Naudé and Rothmann 2006).

The focus of the research conducted on emergency workers was on engagement as the antithesis of burnout, which promised to present new perspectives on interventions to promote healthy perceptions, beliefs and physical well-being, according to Salovey et al (2000), as cited by Naudé and Rothmann (2006). Burnout as the antithesis of engagement has been characterised by a combination of exhaustion and low identification. While in its true nature SOC was a positive psychological concept, it was recognised by Naudé and Rothmann (2006) as something that could have alleviated or aggravated engagement. Described by Antonovsky (1987) as a feeling of confidence that an individual's internal and external environment would have worked out as well as could be expected, either contradicted or reaffirmed Naudé and Rothmann's (2006) (citing Rothmann et al (2001) findings that SOC would have correlated with emotional exhaustion, depending on whether it was a positive or negative correlation. This meant that SOC might have moderated the impact on engagement, depending on whether the individual had a high or low-scoring SOC (Bolger and Zuckerman 1995, cited by Naudé and Rothmann, 2006).

The findings of the research were that emergency workers who had a strong SOC were engaged, presumably because individuals who have been predisposed to

experiencing positive stimuli from the environment, felt that they were in control, To these individuals events were motivationally relevant and meaningful and they had a tendency to be engaged in their work activities (Naudé and Rothmann, 2006). According to Naudé and Rothmann (2006), the results were consistent with previous findings, citing Basson and Rothmann (2002), Schaufeli and Bakker (2004) and Wissing et al (1992) highlighted the fact that emergency workers who had a weak SOC found it difficult to structure their world to be understandable, orderly and consistent.

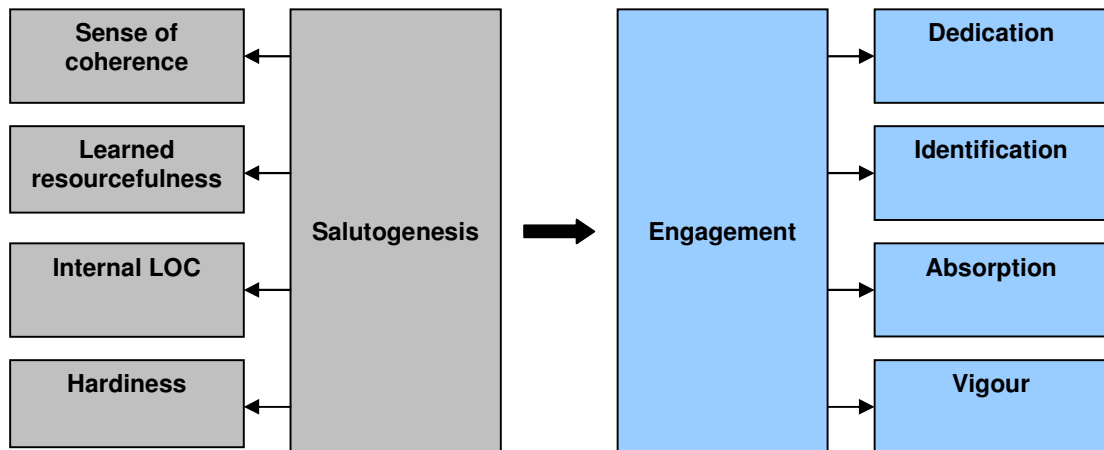
LOC, one of the salutogenesis constructs as defined by Rotter (1966), has been widely discussed and debated by various academics who have developed an interest in the difference between an individual possessing an internal LOC or an external LOC and its relationship with organisational behaviours such as work motivation and engagement (Thomas et al 2006). For the purpose of this research motivation is synonymous with engagement, given that the two concepts share similar characteristics.

Thomas et al (2006) suggested that individuals who believed that they had control had a tendency to be more motivated, based on their intrinsic desire to set more challenging goals and have a higher need for achievement than individuals who believed in an external LOC. According to Judge and Bono (2001), cited by Thomas et al (2006), individuals who had an internal LOC had a tendency to have

better task performance than individuals who had an external LOC, which resulted in better overall organisational performance, and brought financial rewards and promotions, and hence a high level of motivation.

In a study conducted by Cilliers and Kossuth (2002), investigating the relationship between organisational climate (Litwin and Stringer 1968) and salutogenic functioning (Antonovsky 1979) on workers in the South African mining industry, it was found that there has been a strong relationship between salutogenic functioning and a positive organisational climate. Organisational climate has been defined by Cilliers and Kossuth (2002) as a psychological atmosphere, more easily described by its three behavioural levels, i.e. psychological state of the individual, the interpersonal and the organisation. According to Cilliers and Kossuth (2002) it referred to identity, support, responsibility, employee needs, information sharing and interactive communication. The research was conducted on a South African coal mine, and it was found that the organisational climate was significantly influenced by the employees' salutogenic functioning (Cilliers and Kossuth, 2002). A high level of SOC and LOC are positively impacted on by a positive organisational climate (Cilliers and Kossuth 2002).

Figure 4 below illustrates the proposed and supported proposition that highlighted a high correlation between salutogenesis (Antonovsky 1979) and engagement (Kahn 1990).



**Figure 4**

### Summary

The term salutogenesis was first coined by medical sociologist Antonovsky (1979) and widely studied with the main focus being on medical practitioners and workers. Antonovsky (1979) based his salutogenesis theory on the philosophy that it was better to focus on an individual's health based on inherent resources to combat mental disease which cause stress and burnout than on the actual disease. Strümpfer (1995) supported Antonovsky's (1979) view, emphasising a slight shift in focus to strength characteristics and therefore suggesting that the term should have been "fortigenesis" and not "salutogenesis". Salutogenesis was



the parent concept of four psychological constructs or characteristics which suggested that individuals were able to draw mental, cognitive and physical strength from resources that were inherent in individuals.

OE has become topical in corporations since Kahn (1990) first introduced it. Corporations have realised that in order to survive, it was critical to ensure that employees worked in an environment that encouraged engagement. Many of the researchers studied for this research project recognised that while an individual's level of engagement was dependent on the management, culture and environment of the corporation, Antonovsky (1979) and Strümpfer (1995) suggested that an individual's level of engagement had a lot to do with that individual's salutogenic functioning. The link between salutogenesis and engagement has been recognised, debated and studied with increasing frequency as businesses recognised the need to understand what determines engagement (Rothmann 2003).

### 3. RESEARCH PROPOSITIONS

While the literature studied for the purpose of this research report showed very little support for the link between salutogenesis and OE, the research tested the high correlation in relationship between salutogenesis and its constructs and engagement and its facets. The propositions were as follows:

**Proposition 1:** Employees who possessed high salutogenic characteristics had high levels of OE.

**Proposition 2:** Employees with high salutogenic characteristics possessed high level of SOC.

**Proposition 3:** Employees with high salutogenic characteristics had high levels of LR characteristics.

**Proposition 4:** Employees with high salutogenic characteristics possessed high levels of internal LOC characteristics.

**Proposition 5:** Employees with high salutogenic characteristics possessed high levels of hardiness characteristics.

**Proposition 6:** Employees who possessed high levels of OE characteristics possessed high levels of dedication.

**Proposition 7:** Employees who possessed high levels of OE characteristics had high levels of identification.

**Proposition 8:** Employees with high OE characteristics had high levels of absorption characteristics.

**Proposition 9:** Employees with high OE characteristics possessed high levels of vigour characteristics.

## **4. METHODOLOGY**

### **4.1 Research Method**

There has been a significant amount of research on salutogenic functioning and the salutogenic constructs since it was first presented by Antonovsky (1979). In recent years engagement (Kahn 1990) has been studied and presented with its core facets in many journal articles. The purpose of this research project was to identify a link between these two positive psychological concepts.

The proposed methodology was descriptive using a quantitative design to verify what might already have been known from previous ideas solicited from qualitative research about the relationship between these two positive psychological concepts. A quantitative, descriptive approach lent itself to investigating the relationship between two theoretical concepts and their constructs. Descriptive statistics was about the transformation of raw data into a form that made it easy to understand and interpret (Zikmund 2003).

### **4.2 Research Design**

A quantitative survey design was used to achieve the research objective. The study was analysed further through the use of descriptive statistics, testing the correlation between the constructs of salutogenesis which was the independent

variable and the constructs of OE which was the dependent variable. A survey was conducted using an electronic questionnaire to encourage targeted respondents to participate by making it more convenient and protecting their identity through anonymity. According to Zikmund (2003), surveys have been a quick and a relatively inexpensive means to collect data. This view was supported by Balnaves and Caputi (2001) who claimed that a survey was one of the most common methods used for collecting data and convenient in its ability to cover a range of issues. The questionnaire was limited to 35 questions to prevent respondent fatigue and to encourage participation. There were 21 questions that focused on OE (Kahn 1990) and 14 questions that focused on salutogenesis (Antonovsky 1979).

### **4.3 Unit of Analysis**

Using an international manufacturing corporation in South Africa, the unit of analysis was the employees who were based at the global head office. These employees' designations were defined by the organisation's job grading system.

### **4.4 Population**

According to Zikmund (2003), the population had to be a group of individuals who shared a set of common characteristics. The population selected for this research

was employees who worked at the head office of a manufacturing corporation in South Africa. The fundamental commonality was that they were all exposed to the same organisational culture and work and job stress on a day-to-day basis. The nature and level of pressure that was placed on individuals differed, depending on the nature of their roles, but this did not impact the study due to the nature of salutogenesis (Antonovsky 1979) and engagement (Kahn 1990).

#### **4.5 Sampling**

A saturation surveying sampling technique was drawn up using one manufacturing corporation. According to Chipp et al (2007), saturation sampling is a viable surveying process for email research where all possible respondents on a list could be contacted. It is important to note that while a saturation sampling technique was employed, the responses were random. Access to alternative corporations, particularly in manufacturing, was extremely difficult in these uncertain economic times. Corporations were very concerned about allowing an outsider access to their employees for fear that their employees may be poached and fear of them giving away information that could have compromised their ability to maintain a competitive edge. The chosen corporation's head office population was significant and adequate in terms of the number of employees which made attaining the research project objective more achievable. The questionnaire was

sent to all employees who were based at the corporation's head office and who had been graded according to the corporation's grading system.

All the employees based at the head office of this corporation had been exposed to a fair amount of organisation stress which could have had an impact on whether they were engaged or not.

#### **4.6 Data Collection**

A survey was conducted using a questionnaire which was sent out anonymously using a survey data base called 'SurveyMonkey', which was a convenient survey vehicle to use especially since all the respondents had access to e-mail and/or the internet. This also ensured speed of distribution and lower costs and proved more flexible with less handling of paper (Zikmund 2003). Zikmund's (2003) view has been supported by Balnaves and Caputi (2001) who have stated that questionnaires were cost-effective and relatively quick. Less paper meant less of a negative impact on the environment which encouraged participation, particularly in a corporation that is highly focused on sustainability and environmental impact. Zikmund (2003) suggested that a brief covering letter explaining who was conducting the survey and why the survey was being conducted should be sent with the questionnaire to limit chances of non-response errors occurring, which was done. A request was made for the researcher's head of department (HOD) to

send out a letter to all the HODs in the corporation explaining what the researcher was doing and the reason for the research. A short deadline was set to encourage an immediate response, rather than allowing a longer response time which may have fostered procrastination. A second deadline was planned once the initial deadline had elapsed if the number of responses was inadequate to achieve the research objective. Extra time was built into the research timeline based on the theory of constraint which suggested that in a manufacturing or any other process a time buffer should always be allocated to areas that have a high constraint risk (Goldratt 1984).

#### **4.7 Instrument**

The questionnaire used (see Annexure 1) was an adapted seven point Likert, Utrecht Work Engagement Scale (UWES), (Schaufeli and Bakker 2003). The reason the proven scale was adapted for the purpose of this research was because it dealt exclusively with questions on engagement and questions developed from the studied literature on salutogenesis had to be included.

Balnaves and Caputi (2001) described questionnaires as the “ambassador” for the research project, emphasising the importance of ensuring that the questions did not make respondents feel that they were in any way unprotected. The



questionnaire which was adapted for the purpose of this research assisted in obtaining good survey results.

According to Zigmund (2003), the questionnaire must be relevant, which meant that no unnecessary information should be collected, and the questionnaire should also be accurate, meaning that the information must be reliable and valid. This was supported by Balnaves and Caputi (2001) who emphasised that well-formatted valid questions improved the probability of getting accurate responses. According to Babbie and Mouton (2001), the questions should be relevant to most respondents. This was carefully considered when adapting the UWES questionnaire (Schaufeli and Bakker 2003) that was used for the purpose of this research. The questionnaire was highly recommended for engagement surveys to provide the requirements of reliability, validity and relevance.

#### **4.8 Pre-test**

According to Zikmund (2003), it was imperative that the questionnaire being used in the survey was applicable, clear and concise. Balnaves and Caputi (2001) have stressed the importance of using wording that was simple to understand; it was not just about coming up with questions that related to the research question or problem, but questions that could be easily understood. Babbie and Mouton (2001) emphasised the importance of pre-testing, particularly when more than one

cultural or language group was included in the study. A pre-test was conducted to ensure that there was clarity for respondents' convenience with no ambiguity, and as a test for relevance to the topic. The pre-test was used to ensure that the questionnaire worked and that it would provide the researcher with the information required to achieve the research objective. Once the pre-test questionnaire was approved, the questionnaires were sent out to the targeted respondents.

#### **4.9 Data Analysis**

According to Zikmund (2003), descriptive analysis was the raw data in a form that would be easy to understand, interpret, rearrange, order and manipulate to provide descriptive information. According to Babbie and Mouton (2001) descriptive statistics was a method for presenting quantitative descriptions in a manageable form. The measure that was used was ordinal which, according to Zikmund (2003), arranged objects or alternatives according to their magnitude in an ordered relationship. The seven point Likert, Utrecht Work Engagement Scale (UWES) (Schaufeli and Bakker 2003) was used for the purpose of this survey which had ratings from zero, which represented a response of never, and from one to six which represented a response of frequency. (See Annexure 1.)

#### 4.10 Evaluation

The analytical techniques that were used for the purpose of this research were as follows:

- Proposition 1 – Two sample T-test, Cronbach’s Alpha, Multiple & Linear Regression and Frequency matrix
- Proposition 2 – Two sample T-test, Correlation, Multiple & Linear Regression and Frequency matrix
- Proposition 3 – Two sample T-test, Correlation, Multiple & Linear Regression and Frequency matrix
- Proposition 4 – Two sample T-test, Correlation, Multiple & Linear Regression and Frequency matrix
- Proposition 5 – Two sample T-test, Correlation, Multiple & Linear Regression and Frequency matrix
- Proposition 6 – Two sample T-test, Correlation, and Multiple Regression and Frequency matrix
- Proposition 7 – Two sample T-test, Correlation, Multiple & Linear Regression and Frequency matrix
- Proposition 8 – Two sample T-test, Correlation, Multiple & Linear Regression and Frequency matrix
- Proposition 9 – Two sample T-test, Correlation, Multiple & Linear Regression and Frequency matrix

A frequency table was used to identify the frequency with which respondents had leaned towards a certain answer.

## **5. RESULTS**

### **5.1 Introduction**

The questionnaire was sent out using SurveyMonkey, which is an electronic survey tool. The target respondents all had access to e-mail and the internet. The overarching reason for using the survey tool was for the sake of convenience and to guarantee anonymity, particularly during a time of economic instability when individuals may feel concerned about participating in something that they perceive may have detrimental consequences.

### **5.2 Sample**

Using the saturation survey technique, the SurveyMonkey link was e-mailed to all employees based at the head office of the targeted manufacturing corporation. The survey went across various race groups, both gender groups, across all age groups and all job grade levels, from employees who perform clerical job tasks to senior directors, including the CEO. A need for demographics didn't appear to have any real relevance and demographic questions were therefore not included in the questionnaire.

A total of 140 out of 422 employees participated in the survey by completing the questionnaire, which was a 33 per,cent response rate. The instrument that was

used was the UWES questionnaire (Schaufeli and Bakker 2003) which was adapted to accommodate questions based on salutogenic functioning. The salutogenic questions which were developed from the literature were verified by conducting a Cronbach's Alpha, which is a test used to check the validity of a research measuring scale (Santos and Reynolds, 1999).

### **5.3 Scales**

The tests that were conducted for the purpose of this research study were as follows:

#### **5.3.1 Frequency Matrix**

A frequency matrix was conducted to present the data in a tabular form illustrating the frequency in which the respondents selected certain options. A frequency matrix provides the researcher with a visual, easy to read representation of the data (Howell, 1999).

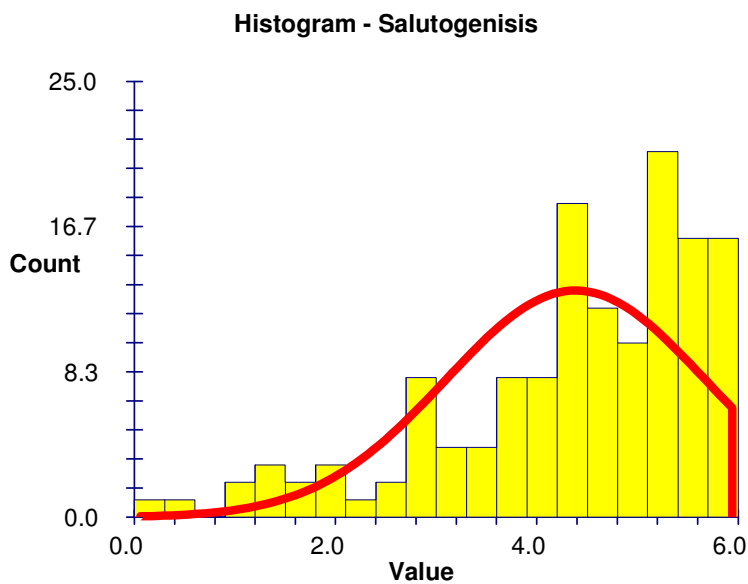
**Table 1: Frequency matrix**

	NEVER	A FEW TIMES PER YEAR OR LESS	ONCE A MONTH OR LESS	A FEW TIMES PER MONTH	ONCE A WEEK	A FEW TIMES A WEEK	EVERY DAY
Salutogenesis	3.1%	2.8%	4.3%	11.7%	8.8%	36.4	32.9%
Sense of Coherence	0.9%	3.3%	3.3%	5.5%	6.9%	28.6%	51.4%
Learned Resourcefulness	1.8%	1.8%	5.7%	5.4%	9.3%	35.4%	40.7%
Locus of control	2.1%	4.3%	3.8%	6.4%	7.6%	35.5%	40.2%
Hardiness	1.9%	1.9%	4.5%	6.2%	7.4%	24.1%	54.1%
Engagement	4.1%	10.5%	10.4%	15.7%	10.3%	22.7%	26.3%
Absorption	6.8%	5.7%	7.1%	10.7%	8.9%	39.1%	21.6%
Dedication	2.3%	3.0%	3.2%	7.5%	5.2%	33%	45.7%
Identification	1.2%	1.9%	3.6%	7.8%	7.6%	29.5%	48.3%
Vigour	3.6%	8.9%	6.6%	12.7%	10.6%	29.8%	27.3%

On three of the salutogenesis constructs, i.e. SOC, LR and internal LOC, there seems to have been a high percentage of respondents who displayed very high levels, i.e. 51.4 per cent, 40.7 per cent and 40.2 per cent respectively, while Identification and Dedication showed high levels at 48.3 per cent and 45.7 per cent respectively on the engagement facets. A high number of respondents displayed high levels of both salutogenesis and its constructs and OE and its facets which resulted in skewness to the right making it improbable to assume normal distribution. For this reason a decision was taken to rescale the data to allow it to behave as an interval scale rather than a nominal scale to prevent restriction of simple analytical techniques (Bendixen and Sandler 1995). An attempt was made

to try two, four and six factor models and, based on the analysis, the six factor model worked well and was therefore used.

The skewness of the data is illustrated in Graphs 1 and 2 below:

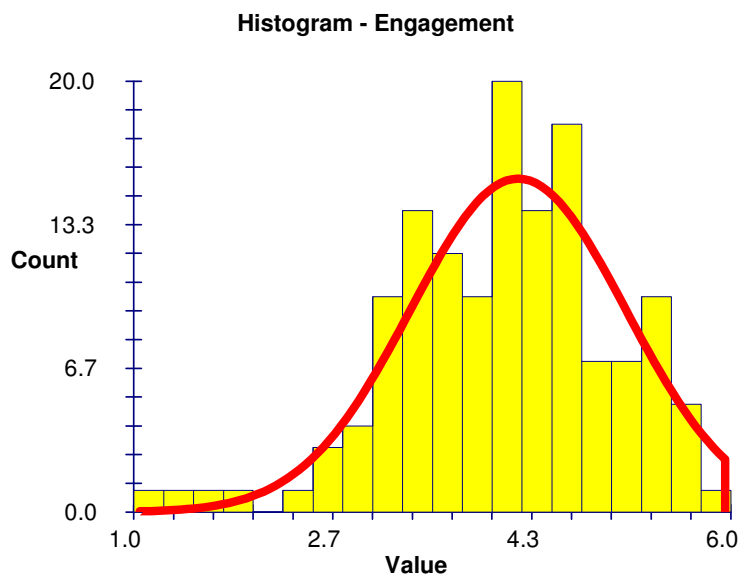


Source: NCSS (2007)

### Graph 1

Graph 1 demonstrates that the result received on salutogenesis is skewed to the right.





Source: NCSS (2007)

## Graph 2

Graph 2 demonstrates that the result received on engagement is skewed to the right.

### 5.3.2 Cronbach's Alpha

A Cronbach's Alpha is conducted to test reliability by determining the internal consistency or average correlation of items in the questionnaire (Santos and Reynolds, 1999). The adaptation of the UWES Scale (Schaufeli and Bakker 2003) to accommodate salutogenesis questions based on the literature necessitated the use of a Cronbach's Alpha test to ensure validity.

**Table 2: Cronbach's Alpha scale validity test**

CONCEPTS	CRONBACH'S ALPHA	STANDARDISED CA
Complete questionnaire	0.91270	0.916182
Salutogenesis	0.81701	0.81473
Engagement	0.86909	0.88139

Table 2 above illustrates the descriptive statistics and Cronbach's Alpha coefficients of the adapted complete questionnaire, salutogenesis and engagement. The number above 0.7 indicates an acceptable Cronbach's level which suggested validity.

### 5.3.3 Two sample T- test for early and late responses

**Table 3: Early and late responses for salutogenesis**

VARIABLE	COUNT	MEAN	SD	VA	Z-VALUE	P-VALUE	REJECT H0
Sal early res	99	5.01353	0.94788	Equal	1.8088	0.03524	yes
Sal late res	11	5.48909	0.50431				
Difference		-0.47555	0.91588				

A Two sample T-test was conducted on the respondents who answered within the first two days, referred to as the early respondents, and the last seven days, referred to as the late respondents of the survey period. The objective was to identify whether there was a difference in the levels of salutogenesis between the individuals who responded early and the respondents who answered late. The

results showed a p-value of 0.03524 which is very low.

Using the Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians. Alternative Hypothesis  $Diff < 0$  NCSS, (2007) had showed that the p-value is below  $< 0.05$ .

**Table 4:** Early and late responses for engagement

VARIABLE	COUNT	MEAN	SD	VA	Z-VALUE	P-VALUE	REJECT H0
Eng early res	99	4.61989	0.80682	Equal	0.3936	0.69388	no
Eng late res	11	4.73181	0.66986				
Difference		-0.1119	0.79513				

A Two sample T-test was conducted on the respondents who answered within the first two days, referred to as the early respondents, and the last seven days, referred to as the late respondents of the survey period. The objective was to identify whether there was a difference in the levels of engagement between the individuals who responded early and the respondents who answered late. The results showed a p-value of 0.69388 which is higher than the significant level of 0.05 which fails to reject the  $H_0$ .

Using the Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians. Alternative Hypothesis  $Diff < > 0$  NCSS, (2007).

### 5.3.4 Two sample T-test for the nine propositions

A Two sample T-test includes a test administered to compare two variables (Albright et al 2006). Based on the nature of this research project, which is the comparison between two variables, it was evident that this form of testing needed to be done to achieve the research objective.

Using the NCSS (2007) analytical tools and techniques software, a two sample T-test was administered for each proposition.

**Table 5:** Full salutogenesis and full engagement

VARIABLE	COUNT	MEAN	SD	VA	DMN CRITERIA VALUE	P-VALUE	REJECT H0
Full Sal	1960	5.02593	1.50553	unequal	0.11802	0.0001	yes
Full Eng	2940	4.59849	1.78357				
Difference		0.42744	2.33405				

A Two sample T-test on the overall constructs was conducted splitting engagement into two variables, engagement with low salutogenesis and engagement with high salutogenesis. The results showed a p-value of 0.0001 which is very low.

Using the Kolmogorov-Smirnov Test for Different Distributions

Alternative Hypothesis  $D(1) > D(2)$  NCSS, (2007) had showed that the p-value is below  $< 0.05$ .

**Table 6: Proposition 1:** Employees who possessed high salutogenic characteristics had high levels of OE.

VARIABLE	COUNT	MEAN	SD	VA	Z-VALUE	P-VALUE	REJECT H0
Eng Hi Sal	130	5.21807	0.61390	Equal	-5.2562	0.0000	yes
Eng Low Sal	10	2.53	0.48078				
Difference		2.68807	0.60611				

A Two sample T-test was conducted testing Engagement against High salutogenesis and Engagement against Low salutogenesis. The results showed a p-value of 0.0000 which is very low.

Using the Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians.

Alternative Hypothesis  $Diff > 0$  NCSS, (2007) illustrated that the p-value was  $< 0.05$ .

Evidence in the results supports the proposition.

**Table 6: Proposition 2:** Employees with high salutogenic characteristics possessed high levels of SOC.

VARIABLE	COUNT	MEAN	SD	VA	Z-VALUE /TEST ALPHA	P-VALUE	REJECT H0
SOC Hi Sal	130	5.365	0.83626	Equal	-5.0374	0.0000	yes
SOC Low Sal	10	2.86	0.85988				
Difference		2.505	0.83782				

A Two sample T-test was conducted testing SOC against High salutogenesis and SOC against Low salutogenesis. The results showed a p-value of 0.0000 which is very low.

Using the Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians. Alternative Hypothesis Diff>0 NCSS, (2007) illustrating that the p-value was <0.05. Evidence in the results supports the proposition.

**Table 7: Proposition 3:** Employees with a high salutogenic characteristics possessed high levels of LR characteristics.

VARIABLE	COUNT	MEAN	SD	VA	DMN CRITERIA VALUE	P-VALUE	REJECT H0
LR Hi Sal	130	5.22284	0.93623	Unequal	0.73076	0.0000	yes
LR Low Sal	10	2.638	1.55321				
Difference		2.58484	1.81355				

A Two sample T-test was conducted testing LR against High salutogenesis and LR against Low salutogenesis. The results showed a p-value of 0.0000 which is very low.

Using the Kolmogorov-Smirnov Test for Difference Distributions  $D(1) > D(2)$  NCSS, (2007) illustrated a p-value  $< 0.05$ . Evidence in the results supports the proposition.

**Table 8: Proposition 4:** Employees with high salutogenic characteristics possessed high levels of LOC characteristics.

VARIABLE	COUNT	MEAN	SD	VA	Z-VALUE /TEST ALPHA	P-VALUE	REJECT H0
LOC Hi Sal	130	5.19276	0.81495	Equal	-5.1306	0.0000	yes
LOC Low Sal	10	1.923	1.04864				
Difference		3.26976	0.83219				

A Two sample T-test was conducted testing LOC against High salutogenesis and LOC against Low salutogenesis. The results showed a p-value of 0.0000 which is very low.

Using the Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians  $Diff > 0$  NCSS, (2007) illustrated a p-value  $< 0.05$ . Evidence in the results supports the proposition.

**Table 9: Proposition 5:** Employees with high salutogenic characteristics possessed high levels of hardiness characteristics.

VARIABLE	COUNT	MEAN	SD	VA	DMN CRITERIA VALUE	P-VALUE	REJECT H0
Hard Hi Sal	130	5.26207	0.76043	Unequal	0.66923	0.0002	yes
Hard Low Sal	10	3.804	1.18403				
Difference		1.45807	1.40719				

A Two sample T-test was conducted testing Hardiness against High salutogenesis and Hardiness against Low salutogenesis. The results showed a p-value of 0.0002 which is very low.

Using the Kolmogorov-Smirnov Test for Different Distributions  $D(1) > D(2)$  NCSS (2007). Evidence in the results supports the proposition.



**Table 10: Proposition 6:** Employees who possess high levels of OE characteristics possessed high levels of dedication.

VARIABLE	COUNT	MEAN	SD	VA	Z-VALUE /TEST ALPHA	P-VALUE	REJECT H0
Ded Hi Eng	123	5.35440	0.68389	Equal	-6.4616	0.0000	yes
Ded Low Eng	17	2.89525	0.82818				
Difference		2.45915	0.70214				

A Two sample T-test was conducted testing Dedication against High engagement and dedication against Low engagement. The results showed a p-value of 0.0000 which is very low.

Using the Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians  $Diff > 0$  NCSS (2007) illustrated a p-value  $< 0.05$ . Evidence in the results supports the proposition.

**Table 11: Proposition 7:** Employees who possessed high levels of OE characteristics possessed high levels of identification.

VARIABLE	COUNT	MEAN	SD	VA	DMN CRITERIA VALUE	P-VALUE	REJECT H0
Id Hi Eng	123	5.47577	0.59475	Equal	0.88426	0.0000	yes
Id Low Eng	17	2.85882	1.28681				
Difference		2.61694	1.41761				

A Two sample T-test was conducted testing Identification against High engagement and Identification against Low engagement. The results showed a p-value of 0.0000 which is very low.

Using the Kolmogorov-Smirnov Test for Difference Distributions  $D(1) > D(2)$  NCSS (2007) illustrated a p-value  $< 0.05$ . Evidence in the results supports the proposition.

**Table 12: Proposition 8:** Employees who possessed high OE characteristics had high levels of absorption.

VARIABLE	COUNT	MEAN	SD	VA	Z-VALUE /TEST ALPHA	P-VALUE	REJECT H0
Abs Hi Eng	123	4.60484	0.97158	Equal	-6.0752	0.0000	yes
Abs Low Eng	17	2.01660	1.14874				
Difference		2.58824	0.99374				

A Two sample T-test was conducted testing Absorption against High engagement and Absorption against Low engagement. The results showed a p-value of 0.0000 which is very low.

Using the Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians  $Diff > 0$  NCSS (2007) illustrated that the p-value was  $< 0.05$ . Evidence in the results supports the proposition.

**Table 13: Proposition 9:** Employees with high OE characteristics possessed high levels of vigour characteristics.

VARIABLE	COUNT	MEAN	SD	VA	Z-VALUE /TEST ALPHA	P-VALUE	REJECT H0
Vig Hi Eng	123	4.68337	0.94483	Equal	-6.3971	0.0000	yes
Vig Low Eng	17	1.9818	0.81298				
Difference		2.70157	0.93050				

A Two sample T-test was conducted testing Vigour against High engagement and Vigour against Low engagement. The results showed a p-value of 0.0000 which is very low.

Using the Mann-Whitney U or Wilcoxon Rank-Sum Test for Difference in Medians  $Diff > 0$  NCSS (2007) illustrated a p-value  $< 0.05$ . Evidence in the results supports the proposition.

### 5.3.5 Correlation Report

A simple correlation is one of the most popular techniques when comparing one variable with another (Zikmund 2003). The correlation test was administered for both salutogenesis and OE to establish which of the salutogenesis constructs had the closest correlation to salutogenesis and to establish which of the OE facets had the closest correlation to OE.

#### 5.3.5.1 Salutogenesis

**Table 14: Pearson Correlation Section (Row-Wise Deletion) Salutogenesis**

	SALUTOGENESIS	SOC	LR	LOC	HARDINESS
Salutogenesis	1.00000	0.890146	0.684355	0.887689	0.644951
SOC	0.89014	1.000000	0.585212	0.754741	0.509393
LR	0.684355	0.585212	1.000000	0.543243	0.253518
LOC	0.887689	0.754741	0.543243	1.000000	0.429037
Hardiness	0.644951	0.509393	0.253518	0.429037	1.000000

Cronbach's Alpha = 0.885064      Standardised Cronbach's Alpha = 0.8900

The correlation test was conducted to assess which of the salutogenesis constructs had the highest correlation to the parent concept, salutogenesis. The results showed that SOC had the highest correlation to salutogenesis at 0.890146 while LR had the lowest correlation to salutogenesis at 0.253518.

### 5.3.5.2 Engagement

**Table 15: Pearson Correlation Section (Row-Wise Deletion) Engagement**

	ENGAGEMENT	DEDICATION	IDENTIFICATION	ABSORPTION	VIGOUR
Engagement	1.000000	0.907645	0.875112	0.802793	0.920336
Dedication	0.907645	1.000000	0.798967	0.650521	0.836671
Identification	0.875112	0.798967	1.000000	0.648380	0.797349
Absorption	0.802793	0.650521	0.648380	1.000000	0.617920
Vigour	0.920336	0.836671	0.797349	0.617920	1.000000

Cronbach's Alpha = 0.940888      Standardised Cronbach's Alpha = 0.948234

The correlation test was conducted to assess which of the engagement facets had the highest correlation to the parent concept, engagement. The results show that vigour had the highest correlation to engagement at 0.920336 while absorption had the lowest correlation at 0.802793.

### 5.3.6 Regression Report

Regression analysis is the study of the relationship between variables in order to understand and make predictions about these variables (Albright et al 2006). Both a linear or simple regression was administered as well as a multiple regression.

### 5.3.6.1 Linear Regression

A simple or linear regression includes a single explanatory variable (Albright, Winston and Zappe, 2006)

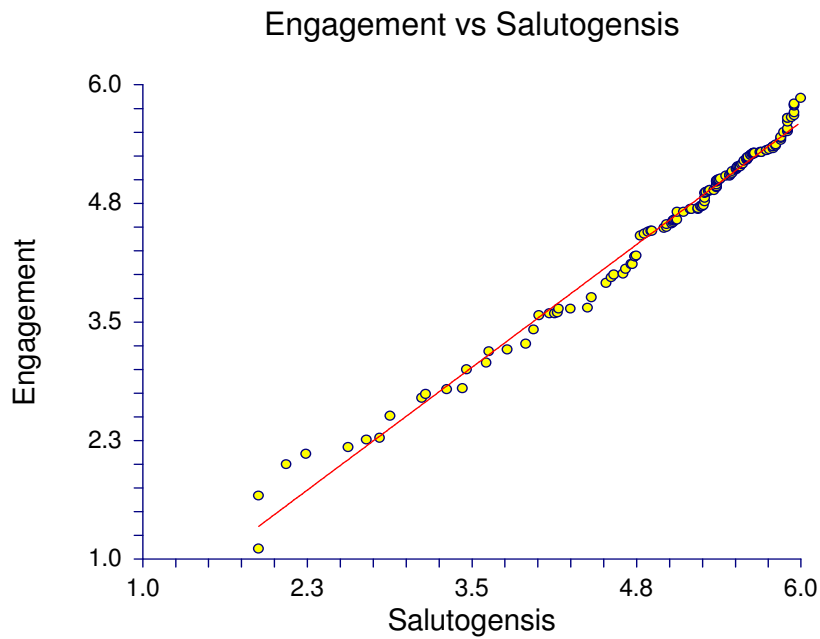
A simple regression was conducted to test the impact that salutogenesis as the independent variable has on the dependent variable, engagement.

The estimated model:  $(1.03409) * (\text{Salutogenesis}) + (-.59895)$

The  $R^2$  is at 0.9879 which is a number very close to reliability.

T Value: Reject  $H^0$  (Alpha = 0.0500)

Good predictors as illustrated in the graph below:



Source: NCSS (2007)

### Graph 3

The result is to reject both the intercept and slope; the variables are significant, so reject  $H_0$

#### 5.3.6.2 Multiple Regressions

A multiple regression includes any number of explanatory variables (Albright et al 2006).

The linear regression proved to be too simple and therefore a decision was taken to look at the impact of the constructs as well, to this end a multiple regression

was administered:

**Estimated Model is as follows:**

$(.22043)*\text{Hardiness} + (.20881)*\text{LOC} + (.15864)*\text{LR} + (.20857)*$

$\text{Other} + (.24389)*\text{SOC} - (.63825)$

R<sup>2</sup>: 0.9883

Adj R<sup>2</sup>: 0.9878

Multiple regression tests improved the model slightly, given that anything above .6 is good.

P-value level, reject the Ho at 5%. P-value at 0, variables are all are good predictors.



## 6. DISCUSSION OF RESULTS

### 6.1 Introduction

The purpose of the research project was to investigate a link between salutogenesis (Antonovsky 1979) and organisational engagement (OE) (Kahn 1990) in a manufacturing corporation in an emerging market. Investigating the link between these two positive psychological concepts included an investigation into the relationship of these concepts with the underlying constructs. The literature studied suggested that the independent concept salutogenesis has four constructs, namely SOC (Antonovsky 1987), LR (Rosenbaum 1980), LOC (Rotter 1975) and hardiness (Kobasa, 1982). The literature suggested that the dependent variable OE has four characteristics, namely, absorption, dedication, identification and vigour (Kahn,1990).

While engagement surveys are conducted regularly throughout corporations in emerging markets what has created interest in this area of research has been the possible misperceptions that managers in these corporations have about the fundamental reasons for what constituted an individual's level of engagement based on Kahn's (1990) definition. This has ultimately led to an interest in investigating the relationship between these two positive psychological concepts. Antonovsky (1987), cited by Strümpfer (1995) and Rothman (2003), emphasised

the theory that individuals have an internal generalised resistance resource (GRR) which suggests that employees have a psychological strength that creates tendencies that are favourable to OE. While Antonovsky's (1979) salutogenesis theory was focused on the individual's ability to have inherent and developed characteristics that enable the individual to have a healthy outlook on life and on their work in particular. Strümpfer (1995) challenged the health focus of Antonovsky's theory stating that it would be better to focus on and reinforce characteristics of strength in an individual that would enable him or her to deal with stressful events. Being a clinical sociologist, Antonovsky's (1979) work was largely focused on health care professionals and workers while Strümpfer (1995) took more of a business approach.

A large percentage of the literature studied for this research focused on businesses abroad, particularly the services industry in the United States, and while there were similarities, significant differences were identified between the literature studied and this research project. Some of these differences concern the way individuals view their organisational culture versus their national and community culture. An example of this is that while individuals in the United States place their organisation before all else, a very large number of individuals in an emerging market like South Africa put their communities first.

Kahn (1990) investigated the performance of businesses and the impact that an individual had on the performance of the business based on how often they were engaged in the business in its entirety and the business's objects. He investigated how employees in their personal capacity viewed their role and whether what they did has any real impact on the outcome. Perrin (2009) has cited engagement as the most fundamental concept required by businesses to ensure that they stay competitive. Perrin (2009) does suggest that while businesses in emerging markets tend to be focused on the organisational aspects that may or may not have an impact on an individual's level of engagement, there might be more to it than just that, and even incentive schemes may not be enough. Perrin (2009) does not state it categorically, but it can be assumed that he is referring to the fact that there may be underlying issues that determine how often an employee is engaged. This research has therefore investigated the relationship between OE and salutogenesis, with salutogenesis being the underlying factor that Perrin (2009) may be referring to.

The investigation was conducted at the head office of a single corporation in an emerging market which was considered adequate to achieving the research objective which was to investigate the link between salutogenesis and OE. The nine propositions focused on the relationship between salutogenesis and OE, proposing that there is in fact a link between the two and that they are positively correlated (Naudé and Rothmann 2006).

The first proposition focused on the relationship between salutogenesis as the independent variable and whether or not this positive psychological concept had an impact on how often an individual was engaged when at work or conducting work tasks. Four out of the remaining eight propositions focused on the relationship between salutogenesis and the underlying constructs, while the remaining four propositions focused on the relationship between OE and the engagement facets. For each proposition a simple Two sample T-test was conducted splitting each independent variable between high and low and then comparing it to a dependent variable. The results showed that a normal distribution could not be assumed and was in fact skewed to the right which suggests high levels of both salutogenesis and OE. The fact that the researcher was a co-worker of the respondents may have had an impact on the way that respondents replied to the questions, opting for a populous approach for fear of being exposed, despite the reassurance that the respondents would be protected through anonymity.

A decision was taken to convert verbal scales to interval scales to accurately measure how high high really is, and how low low really is, using the Bendixen and Sandler (1995) method. Another reason for rescaling was to enable the researcher to calculate the mean and to make more accurate inferences based on the results. The Bendixen and Sandler (1995) method enabled the researcher to use statistical

tools and techniques more extensively and with fewer limitations. All the literature studied that had used the Utrecht Work Engagement Scale (Schaufeli and Bakker 2003) presented the mean at three, representing a response of “A few times a month” on the seven point Likert scale with a range of zero representing “Never” and six representing “Every day”. Due to the skewness to the right based on the data illustrated in both Tables 2 and 3 the mean was presented at four representing a response of “Once a week”.

The propositions together with the results were presented and discussed, which allowed for reasoning to be made on grounds that would either support the findings in the literature or counter the studied results.

**Table 16: Propositions results**

PROPOSITION	REJECT H0
0.) FULL SALUTOGENESIS AND FULL ENGAGEMENT	YES
1.) HIGH SALUTOGENIC CHARACTERISTICS, HIGH ENGAGEMENT	YES
2.) HIGH SALUTOGENIC CHARACTERISTICS, HIGH LEVEL OF SOC	YES
3.) HIGH SALUTOGENIC CHARACTERISTICS, HIGH LEVELS OF LR	YES
4.) HIGH SALUTOGENIC CHARACTERISTICS, HIGH LEVELS OF LOC	YES
5.) HIGH SALUTOGENIC CHARACTERISTICS, HIGH LEVELS OF HARDINESS	YES
6.) HIGH ENGAGEMENT, HIGH LEVELS OF DEDICATION	YES
7.) HIGH ENGAGEMENT, HIGH LEVELS OF IDENTIFICATION	YES
8.) HIGH ENGAGEMENT, HIGH LEVELS OF ABSORPTION	YES
9.) HIGH ENGAGEMENT, HIGH LEVELS OF VIGOUR	YES

## **6.2 Discussion of results testing early and late responses**

A Two sample t-test was conducted to reduce the chances of response bias. These two tests, as per Tables 3 and 4, incorporated the 99 respondents who participated in the survey on the first two days of its running period, and the 11 respondents who participated in the survey during the last seven days, for both the salutogenesis questions as well as the engagement questions. The results show that there is no difference in the level of salutogenesis and engagement from the individuals who responded early or late. The test highlights that the late respondents displayed a higher level of both salutogenesis and engagement than the early respondents, which highlighted that the time it took for individuals to respond is not significant at all in terms of the level of salutogenesis and engagement.

## **6.3 Discussion of results for proposition one**

The first proposition suggested that a high level of salutogenesis resulted in an individual's being regularly engaged in his or her work. Perhaps the strongest argument studied that supported the link between OE (Kahn 1990) and salutogenesis (Antonovsky 1979) was the study performed on managers in a manufacturing industry by Jansen van Vuuren and Rothmann (2002) and cited by

Rothmann et al (2004) who suggested that SOC (Antonovsky 1987), the major construct of salutogenesis, mediated the relationship between job stress and work engagement. Rothmann et al (2004), citing Nelson and Simmons (2003), have proved through research on the topic that employees with a high SOC were more often engaged at work due to the stimuli from the environment which the individual perceived to be comprehensible, meaningful and manageable. While both salutogenesis and OE as independent theories have been widely studied by various researchers over the years, the link between the two has not been studied in any real detail, particularly in the emerging market context and, more particularly, in manufacturing corporations.

The results shown in Table 4 showed that there is a very high positive correlation between salutogenesis and OE. This suggested that the proposition was proven correct, supporting the theory that when individuals have a high level of salutogenic characteristics (which, according to Linley et al, (2006) means that they are functioning at optimal levels) they will regularly be more engaged in their daily job tasks.

#### **6.4 Discussion of results for proposition two**

The second proposition suggested that a high level of salutogenesis resulted in a high level of SOC. Sagy and Antonovsky (2000) found that individuals who played

an active participatory role in decisions developed a high level of self-esteem and self-confidence, believed they could manage most situations and that everything in life had meaning. Individuals with a high level of SOC also felt that they were in control of most situations (Sagy and Antonovsky, 2000). The results presented in Table 5 show that there is a high correlation between salutogenesis and SOC as an independent yet related construct. The results also show, highlighted in Table 13, that SOC is the most closely correlated salutogenic construct to salutogenesis.

Linström & Eriksson (2005) cited Antonovsky (1979) as saying that SOC is an independent yet related salutogenic construct and that while individuals possess high levels of resources and capabilities that create health, they had high levels of comprehensibility, manageability and meaningfulness, making them more likely to seek solutions to problems that present themselves in their daily tasks than to shy away from them.

The proposition is therefore supported by the results, suggesting that while individuals had high levels of manageability, meaningfulness and control (Sagy and Antonovsky 2000), they were better equipped to manage their cognitive, mental and physical well-being.



## 6.5 Discussion of results for proposition three

The third proposition suggested that a high level of salutogenesis resulted in a high level of LR (Rosenbaum 1980) and that individuals who had developed effectiveness of coping skills training through self-regulation of internal events such as pain and emotions were generally positive about the outcome of future events.

Strümpfer (1990) suggested that LR was further categorised as a sense of complex behaviours, cognitions and affects that were in constant interaction with an individual's physical and social environment, providing the basis for further learning. Forty per cent of the respondents replied that they were able to manage their emotions and would practise resilience every day.

The results shown in Table 6 suggest that there is a high correlation between salutogenesis and LR, which suggested that the proposition was correct and that while individuals had a high level of salutogenic characteristics they had high levels of LR, which developed a basis for further learning, keeping individuals motivated and inspired to perform well (Strümpfer 1990).

## 6.6 Discussion of results for proposition four

The fourth proposition suggested that a high level of salutogenesis resulted in a high level of internal LOC (Rotter 1966). A high correlation between salutogenesis and LOC suggested that the proposition was supported by the results, based on the view that people who had an internal LOC perceived themselves as active agents while individuals who had an external LOC perceived themselves to be passive agents (Boone et al 2005).

The literature suggests that individuals who have a high internal LOC instinctively take control of the situation. They are quick to identify the need for a solution and are quick to find that solution. According to Breeding (2008), LOC is a construct that through rehabilitation can be shifted from external to internal. Based on the nature of the research and the way the questions were structured, it is impossible to say which of the employees answered in a way that would suggest that they have an internal LOC.

The results highlighted in Table 7 showed that there is a strong correlation between a high level of internal LOC (Rotter 1966) and salutogenesis. In fact, other than SOC, LOC is the most closely correlated salutogenesis construct highlighted in Table 13. Out of all the respondents 41 per cent believed that they had full control of the outcome of events that would have affected them, and that they maintained a good balance between a healthy work life and a healthy home

life (Boone et al 2005). The individuals surveyed in this research project were mostly in management positions which could explain why they have a higher level of internal LOC than external LOC, and which may have had a bearing on the results.

## **6.7 Discussion of results for proposition five**

The fifth proposition suggested that a high level of salutogenesis resulted in a high level of hardiness (Kobasa 1979).

The results highlighted in Table 8 showed that there was a high correlation between a high level of salutogenesis and a high level of hardiness and that individuals who possess high levels of hardiness characteristics had a tendency to manage stress a lot better. Hardiness is the behavioural construct that enables an individual to manage a stressful environment better, based on the individual's inherent strong nature (Kobasa and Puccetti 1983). Lambert and Lambert (2001) emphasised that a stressful workplace became a breeding ground for behavioural health problems and that it was the hardiness characteristic that prevented the manifestation of these behavioural health problems.

The literature is supported by the results which showed that there was a strong correlation between salutogenesis and hardiness. Citing Sagie and Kozlowski

(1994), Cole et al (2004) emphasised the increased need of individuals for being part of the work process and feeling a deeper sense of challenge, control and commitment, particularly during uncertain times. This was highlighted in the results which showed a strong connection with psychological health which is the very nature of salutogenesis. The proposition was therefore supported by the results.

## **6.8 Discussion of results for proposition six**

The sixth proposition suggested that a high level of OE resulted in a high level of dedication. Schaufeli et al (2002) described dedication as a sense of significance, an individual being inspired and committed to positively taking on work challenges and feeling a strong sense of connection with the corporation.

The results highlighted in Table 9 showed that there is a strong correlation between a high level of OE and high level of dedication, suggesting that the individuals felt a strong connection with what the corporation was trying to achieve, linked to identifying an alignment between the values of the corporation and their own. The correlation highlighted in Table 14 suggests that dedication other than vigour had the highest correlation with OE. The results showed that 51 per cent of all respondents answered that they felt a sense of dedication every day, “everyday” being the most extreme option in support of a high level of dedication on the Utrecht seven point Likert scale (Schaufeli and Bakker 2001). This

proposition was supported by the results, showing that individuals who had high levels of dedication were engaged more often than individuals who were not often engaged while performing work tasks; conversely, individuals who felt a sense of disconnectedness or alienation from the corporation had a tendency to have a very low level of dedication and were therefore disengaged when performing work tasks.

## **6.9 Discussion of results for proposition seven**

The seventh proposition suggested that a high level of OE resulted in a high level of identification (Fleck 2007). The results showed that individuals felt a strong connection to the corporation, had a good understanding of in which direction the corporation was heading, and felt that they identified with the corporation. This suggested a strong psychological contract between the individuals and the corporation. The high correlation that exists between a high level of OE and a high level of identification suggests that a dynamic relationship existed between the individual who drove his or her personal energy into the work that they did and the corporation as a whole. The results presented showed that 48 per cent of all the respondents felt that they identified with the corporation every day, and the strong correlation between OE and identification (Fleck 2007) suggested that the proposition was supported by the results.

## 6.10 Discussion of results for proposition eight

The eighth proposition suggested that a high level of OE was highly correlated to a high level of absorption.

The results highlighted in Table 8 show that individuals who were absorbed or engrossed in their day-to-day work functions, and who were not easily distracted when performing daily functions, were engaged a lot more often than employees who were not engrossed in their daily tasks (Schaufeli and Salanova 2007). Schaufeli and Salanova (2007) have also suggested that there is in fact a link between a high level of absorption and internal LOC.

A strong correlation between OE and absorption (Schaufeli and Salanova 2007) suggested that the proposition was supported by the results and that individuals who are absorbed in what they do and inspired by their work are engaged more often than individuals who are not absorbed in what they do. According to Schaufeli and Salanova (2007), an individual's level of absorption is determined by how difficult it is to distract that individual from his or her work.

## 6.11 Discussion of results for proposition nine

The ninth proposition suggested that a high level of OE resulted in a high level of vigour (Shirom 2004). Cited by Sonnentag and Niessen (2008), Shirom (2004) has presented an all-encompassing definition of vigour, describing it as a high level of energy and mental resilience while in the workplace performing work tasks. The results showed a positive correlation between OE and vigour (Shirom 2004). Table 14 highlights vigour as the most highly correlated facet to engagement which suggested that individuals who felt a strong sense of aliveness and energy had a tendency to be engaged more often than individuals who did not have these levels of energy or feelings of aliveness.

The results shown in Table 12 suggest that the proposition is true and that while individuals had high OE characteristics, they also had high levels of vigour. Sonnentag and Niessen (2008) have suggested that individuals who had higher levels of vigour had the tendency to deal with stressful situations a lot better than individuals who did not have high levels of vigour, suggesting that the proposition was correct.

## 6.12 Discussion of results

The results showed that there is a high correlation between salutogenesis and OE and their underlying constructs. Three studies were conducted by Strümpfer and Mlonzi (2006) to test the relationship between SOC and OE. They sampled 234 consultants in a life insurance company, 141 participants who worked as people managers in various companies and a saturation sample of all the academic staff at a historical African university. Their findings showed a correlation with a lower mean compared with the correlation of the mean in the present research. Strümpfer and Mlonzi (2006) also showed that the results from all three tests were not categorical and that while the first two studies presented a high correlation between SOC and engagement, the third study involving the staff at the African university did not present a high correlation. Why would the first two tests have a similar outcome to the results of the present research conducted on the manufacturing corporation, and yet the third test have a different outcome? It is evidential that the outcome will not always be favourable and that the results will vary, depending on the nature of the individuals being surveyed.

A study of workers in the South African mining industry conducted by Cilliers and Kossuth (2002) investigated the relationship between organisational climate (Litwin and Stringer 1968) and salutogenic functioning. The results showed that there was a strong correlation between salutogenic functioning and a positive organisational climate. Organisational climate was defined by Cilliers and Kossuth



(2002) as a psychological atmosphere, more easily described by its three behavioural levels, i.e. psychological state of the individual, the interpersonal and the organisation. While the organisational climate has not been mentioned in too much detail in this research, it is appropriate to present it when considering the potential reasons for the positive outcome of this research, and the similar outcome shown in two out of the three studies presented by Strümpfer and Mlonzi (2006) in the literature. Compared with the two studies that presented similar results, the mean in this research is higher than the mean in those two studies; in fact the mean was higher than all the other studies that were conducted and presented in the literature.

It was interesting to see how many respondents replied, “A Few Times A Week” and “Every day” for all the questions, suggesting high levels of salutogenesis and OE characteristics. The results drawn from the T-tests that were conducted also showed very high correlations between the dependent and independent variables, suggesting that all the propositions were proven correct, which also raises questions. The correlation reports for both OE and salutogenesis were not too surprising. The literature studied supports SOC as the closest construct to salutogenesis, and vigour as the closest facet to OE, which was supported by the results shown in Tables 13 and 14. The linear regression test highlighted by Graph 1 and the multiple regression test were conducted to test the impact of the independent variable on the dependent variable. The results showed reliability and

good predictors, suggesting that the independent variable highly impacts the dependent variable.

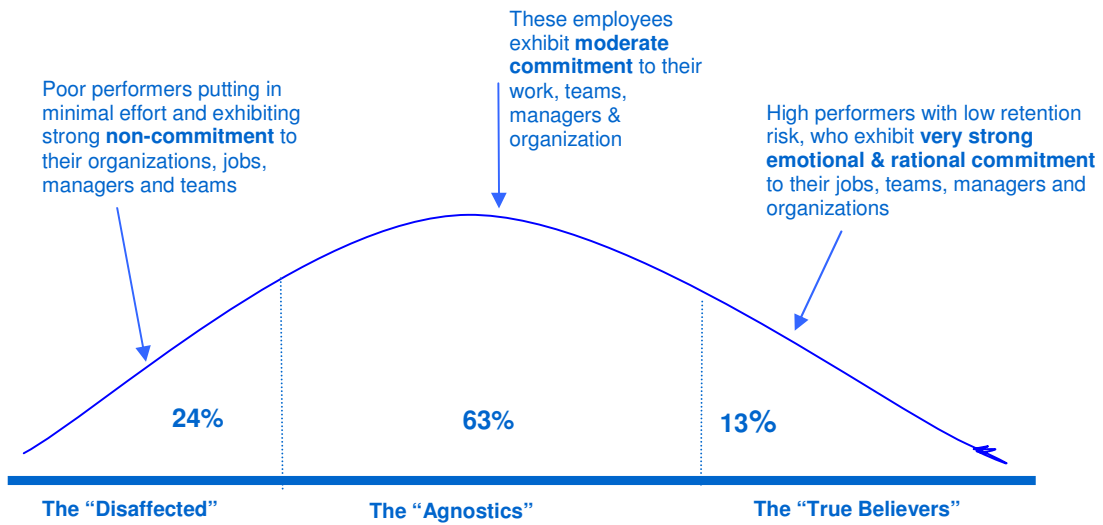
The results raise fascinating questions about the corporation that was surveyed.

Some of the key questions may be around the leadership and management style and the organisational climate and culture. Perrin (2009) suggests that managers will need to recognise the need to be engaged in order to weather the tough economic times and it is hard not to think that perhaps individuals are aggressively accepting the challenges presented as a result of the economic downturn. Fear of unemployment, could have had a positive impact on an individual's level of engagement. Then there is the populous approach to answering the questions based on the working relationship that the respondents have with the researcher which cannot be ignored.

The corporation that was surveyed for the purpose of this research report has been through a leadership change. Ralph Boöttger, ex CEO of Imperial joined this corporation as global CEO on 2 July 2007. He admitted that he was not a job hopper, and that he was lured to organisations that required a hands-on approach. He also admitted that he enjoyed engaging staff and dealing with customers (Furlonger 2007). According to Furlonger (2007) no one questioned the importance of Eugene van As, Boöttger's predecessor, to the corporation but

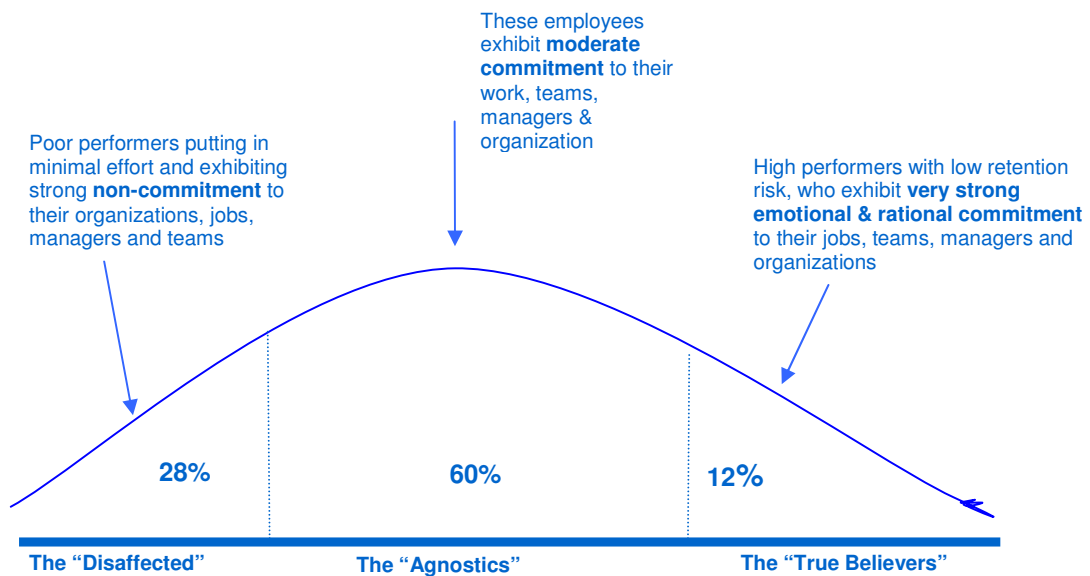
unwittingly he cast a looming presence on anyone who would be King. Integrity and a solid value system is, as Boëttger put it, a fundamental requirement for successful leadership and the reason he thinks the corporation appointed him (Furlonger 2007). At his inception speech Boëttger told an auditorium filled with the corporation's head office staff that he was prepared to listen to anyone who had something to share about how the business could improve in any way, before concluding with commitment to server (Ubuntu) leadership.

This corporation conducted an engagement survey for the first time in its existence in 2007 exactly four months after Boëttger's appointment; the normal distribution was used to illustrate the various levels of engagement. Diagram 2 illustrates the 2008 results and Diagram 3 illustrates the 2007 results. The level of engagement was separated into "the disaffected", which represented employees who showed non-commitment; "the agnostic", which represented employees with moderate commitment; and "the true-believers", which represented employees who displayed very strong emotional and rational commitment. The results clearly show that between 2007 and 2008 the percentage of disaffected employees dropped from 28 to 24 per cent, the agnostics increased from 60 to 63 per cent and the true-believers increased from 12 to 13 per cent. These results clearly show a trend towards an improved level of engagement, which is in keeping with the results presented in this research project.



Source: 2008 Sappi Engagement survey

Diagram 2: engagement survey results 2008



Source: 2007 Sappi Engagement survey

Diagram 3: engagement survey results 2007

While this corporation has not participated in any external brand equity or best-company-to-work-for rating surveys, they ran an internal campaign inviting employees to participate by writing their favourite story about the corporation. The top 200 stories were printed and bound in a book. Some of the employees who wrote stories had been with the corporation for more than 25 years, while others had been with the corporation for only three years, but all wrote heartfelt stories about how much they felt a part of the corporation and enjoyed working for it (mysappi, 2008). Jan Labuschagne, the corporation's Southern African CEO, states that relationships are at the heart of success, and he emphasises that the corporation cares about colleagues, customers, communities and all stakeholders who partner it, which suggests that the leadership of the corporation identifies the importance of people which could be ingrained into the culture (mysappi, 2008). The employee value proposition (EVP) was then written using a culmination of the stories which further communicated the leadership's intention to encourage involvement and participation.

Strümpfer (1995), cited by Rothmann (2003), suggested that psychological strengths create tendencies that are favourable to work engagement. The psychological strengths that he is referring to are the salutogenic constructs. The results have shown that if an individual has very high levels of the salutogenic constructs he has very high levels of engagement.

## **7. CONCLUSION**

### **7.1 Introduction**

While Antonovsky (1979) focused much of his work on medical professionals and workers, Strümpfer (1995) was more focussed on educational institution staff and workers and businesses when studying salutogenesis. But there remains little research on manufacturing corporations, which is where the present research has been focused. Engagement (Kahn 1990) also presents fewer studies on manufacturing corporations, so it has been interesting to look at salutogenesis and OE in the context of a manufacturing corporation and in a developing market.

What has been interesting is the outcome which has demonstrated strong support for a link between salutogenesis and OE, but what has been particularly fascinating are the high levels of salutogenesis and OE compared to the literature studied, as well as the high correlation between the two compared to other literature studied.

The study conducted by Cilliers and Kossuth (2002) on workers in the mining industry in an emerging market investigated the relationship between organisational climate (OC) (Litwin and Stringer 1968) and salutogenic functioning. It is interesting that Cilliers and Kossuth (2002) looked at the organisational climate as a key contributing factor to engagement. The intriguing part of the research on OC is that it creates a view that the corporation studied in this

research may have shown the high levels of salutogenesis and OE based on the OC that they work in. According to Litwin and Stringer (1968), OC includes culture as a component, and for that reason the culture of this corporation is something that has to be considered when trying to ascertain what it is that has contributed so effectively that there are such high levels of engagement amongst the workforce. Leadership and management in the corporation have to be considered as a major contributing factor when looking at the motivated workforce of this corporation. Ralph Boëttger's server "Ubuntu" leadership philosophy and Jan Labuschagne's people-focused declaration are points which need to be taken cognisance of in the context of leadership having an impact on the level of engagement which has been identified in this corporation.

## **7.2 Learnings**

There have been a number of fundamental lessons learned from this research which may have meaning for various stakeholders throughout the corporation, both internally and externally.

### **7.2.1 Human Resources**

In a discussion with Ellenore Melrose, a qualified in-house medical sister who heads up the Employee Wellness Programme at the corporation, it emerged that

more than what is already being done can be done to monitor and improve stress management in the corporation. According to Antonovsky's (1979) salutogenesis theory, it is better to focus on an individual's health resources and on reinforcing these characteristics than on the actual burnout caused as a result of stress; this supports Ellenore's sentiments. The corporation has done well with its holistic view of health management, which includes training employees to study symptoms to enable them to proactively identify individuals who are at risk of suffering burnout.

There are a number of other wellness programmes in place that go a long way in supporting physical, mental and emotional wellness, according to Ellenore, but she feels that at times the response time of managers to engage employees who are clearly on a downward spiral towards stress-related burnout is too slow. To counteract the tardiness in responding to employee wellness, Ellenore has confirmed that the Wellness Committee has set up a programme to assist employees to self-manage their stress levels. There could be criticism that this training programme is poorly communicated, and more has to be done to inform employees that this training is available.

While salutogenesis by its very nature is largely inherent and entrenched in the mental make-up an individual, recruitment policies can utilise the learning from this research to implement a plan to test the levels of these characteristics when employing and promoting individuals. Based on the results of this research and



supported by similar results as identified in the literature, when studying the link between salutogenesis and engagement, the level of engagement will improve if individuals who have high salutogenic characteristics are recruited.

### **7.2.2 Board of Directors**

The board of this corporation would derive great insights from the findings of this research. The best way to describe the board in terms of their understanding of the importance of a healthy staff mean and engaged staff is to refer to the Johari's (1969) window model; the board would exist in the unconsciously competent quadrant in the two-by-two matrix. They appear to be leading with focus on employee wellness, but they may not be entirely conscious of the fact that this improves the level of engagement, and therefore profitability. The board needs to be aware that they should continually reinforce wellness in the corporation and continually foster a culture of wellness. This can be done by further encouraging programmes that encourage physical, mental and emotional wellness. The board needs to allow for an increase in occupational health, primary health care health promotion and wellness through training, employee well-being programmes and employee benefits and curative care, and to make allowances for this in the cost budget. While many of these wellness promotional activities may already be in

place, perhaps there should be more awareness created about the fact that they are in place and that the board not only supports it but is a part of driving it.

A stressful workplace is a breeding ground for behavioural problems (Lambert and Lambert 2001). The board has to be cognisant of this fact, and therefore encourage interactive sessions between staff and health professionals. Ellenore's idea about training employees to monitor their colleagues is a great idea but it has to be done throughout the corporation.

### **7.3 Limitations**

A major limitation is that the survey was not designed to establish who of the respondents were in managerial positions. It would have been interesting to see whether or not the respondents who showed high levels of salutogenesis and engagement were in fact in managerial and senior positions and to draw inferences from this information.

While considering that the OC could have played a significant role in motivating individuals to high levels of engagement, another aspect could be the external OC. External OC refers to events that occur outside the corporation that may have an impact on the behaviour of employees in the corporation, and that may affect the way they behave while at work or executing work functions. The FIFA World Cup

event being hosted in South Africa in 2010 is an example of an external OC and may be a potential contributing factor to why South Africans feel positive about the future. External OCs may have an impact on an individual's SOC, particularly the meaningfulness characteristic of SOC as described by Strümpfer and Mlonzi (2006). Other contributing factors which have been mentioned before, may have been the fear of exposure; and perhaps conducting research across a few corporations across borders would also have provided greater insight, potentially showing more diversity.

Despite the fact that this research is focused on inherent psychological behaviour, the fact that different respondents report to different managers will have an effect on their level of motivation and therefore the level of engagement cannot go unnoticed. The research was generically conducted without taking any diversity into account in terms of race, gender or age, which has to be acknowledged. Men, particularly in South Africa given the political history of the country, may tend to have higher levels of internal locus of control than women, given that in many cultures men are still considered the dominant figure in the household.

The apartheid history of SA cannot be ignored when conducting research of this nature: the potential racial tension that might, to a large extent, still be alive in the hearts and minds of some of the respondents; the vast cultural diversity in SA compared with other countries in developed markets where individuals are a lot

more homogeneous despite their political, cultural, religious and gender differences. Generation theory as described by Codrington and Grant-Marshall (2004) has to be considered as another potentially contributing factor that drives individuals to view the world in the way that they do. It has to be taken into consideration that a Baby Boomer born between 1940 and 1960 may have had life experiences that are in contradiction to the life experiences of an individual born during the generation X era between 1960 and 1980. Individuals in different age groups also have a different outlook on the future, when comparing an individual close to retirement and an individual who is only starting out on his or her career. It is hard to say which generation would display stronger psychological tendencies and internal resources for dealing with stress but the difference as a contributor has to be acknowledged and considered for future research.

#### **7.4 Concluding Summary**

Based on the literature studied, Antonovsky's salutogenesis (1979) theory is scarcely challenged, strongly supported and widely cited. Strümpfer (1995) opposes Antonovsky's (1979) view by emphasising a slight shift in focus to strength characteristics rather than health characteristics. Based on the results identified in this research, there seems to be a shift towards a more strength focused approach to the characteristics, which is more in line with Strümpfer's (1995) view.

Probably the most interesting findings of this research were how highly linked and correlated salutogenesis and OE appear to be, how often engaged individuals in this corporation appear to be, and the high number of individuals who possess such high levels of salutogenesis and salutogenic constructs. This is especially interesting when compared with other studies in the literature.

The link between salutogenesis and OE should be explored further and should include demographical differences which should be broken down into gender, race, age, position or grade held at the corporation. It should include more than just one corporation in more than one sector and across borders.

While all the propositions have proven to be correct, supporting a strong link between a high level of salutogenesis and a high level of OE, one has to ask what businesses in emerging markets have to do to cultivate an engaged workforce. Engagement in corporations around the world remains a key problem and is the one strong factor that could mobilise business so effectively that it could weather the storm of the difficult economic times. The nagging question still remains: is there a whole lot more that can be done by business leadership, or are the innate characteristics of individuals such that there are much deeper psychological issues that corporation leaders are not trained to deal with? According to Loehr and Schwartz (2003), the old paradigm of managing time has come and gone. The

new paradigm is to manage energy, and may mean that transformational leadership is needed to do this effectively. The biggest question still remains whether managers in the corporation studied in this research have what is required to manage energy, and hence engagement.

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## Annexure 1

### QUESTIONNAIRE

The purpose of this questionnaire is to assess how you view your job and what your reactions are to your work. The following are statements of job/work-related feelings. Please read each statement carefully and decide if you ever feel this way about your job/work. If you never had this feeling, **CIRCLE** "0" (zero) in the space next to the statement. If you had this feeling, indicate how often you feel it by **CIRCLING** a number (from 1-6) that best describes how frequently you feel that way.

0 Never	1 A few times per year or less	2 Once a month or less	3 A few times per month	4 Once a week	5 A few times a week	6 Every day
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STATEMENT		SCALE							
1	I am bursting with energy in my work	0	1	2	3	4	5	6	
2	I get carried away by my work	0	1	2	3	4	5	6	
3	I feel exhausted at work	0	1	2	3	4	5	6	
4	I feel strong and vigorous in my job	0	1	2	3	4	5	6	
5	I am enthusiastic about my job	0	1	2	3	4	5	6	
6	I am in control of my destiny	0	1	2	3	4	5	6	
7	My job inspires me	0	1	2	3	4	5	6	
8	When I get up in the morning, I feel like going to work	0	1	2	3	4	5	6	
9	I feel happy when I am engrossed in my work	0	1	2	3	4	5	6	
10	I am proud of the work that I do	0	1	2	3	4	5	6	
11	I have a high level of self-esteem	0	1	2	3	4	5	6	
12	In my job, I can continue working for very long periods of time	0	1	2	3	4	5	6	
13	To me, my work is challenging	0	1	2	3	4	5	6	
14	I feel stressed when I am working	0	1	2	3	4	5	6	
15	I am very resilient, mentally, in my job	0	1	2	3	4	5	6	
16	I manage my emotions well	0	1	2	3	4	5	6	
17	I always persevere at work, even when things do not go well	0	1	2	3	4	5	6	
18	I feel happy when my attention is totally focussed on my work	0	1	2	3	4	5	6	
19	I feel strong and full of life and energy in my work	0	1	2	3	4	5	6	
20	In my job I can comfortably deal with stressful situations and I easily recover from such situations	0	1	2	3	4	5	6	
21	I am able to maintain control even through tough situations	0	1	2	3	4	5	6	



22	I find my work full of meaning and purpose	0	1	2	3	4	5	6
23	Time flies when I'm working	0	1	2	3	4	5	6
24	I can't wait for the working day to end	0	1	2	3	4	5	6
25	I am confident in what I do	0	1	2	3	4	5	6
26	I understand the tasks that I am presented with	0	1	2	3	4	5	6
27	When I am working, I forget everything else around me	0	1	2	3	4	5	6
28	I cope well with the tasks that are presented to me with the resources available to me	0	1	2	3	4	5	6
29	I am immersed in my work	0	1	2	3	4	5	6
30	It is difficult to detach myself from my job	0	1	2	3	4	5	6
31	I am in control and empowered to manage how I feel	0	1	2	3	4	5	6
32	When I feel the pressure mounting, I am still able to feel positive and deal with that pressure	0	1	2	3	4	5	6
33	I am committed to what I am doing whether I am stressed or not	0	1	2	3	4	5	6
34	I enjoy devoting all my attention and energy to my work	0	1	2	3	4	5	6
35	I enjoy change more than I enjoy repetition	0	1	2	3	4	5	6

Items adapted from, Schaufeli, W. & Bakker, A. (2003)  
The Utrecht Work Engagement Scale (UWES)