

PSYCHOLOGICAL STRENGTHS AND DISABILITY:  
A STUDY ON HEARING-IMPAIRED ADULTS

by

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I declare that **Psychological Strengths and Disability: a Study On Hearing-Impaired Adults** is my own work and that all the sources that I have used have been indicated and acknowledged by means of complete references.

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(MRS T DE WET)

.....  
DATE

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## **SUMMARY**

**Key words:** Psychological strengths; salutogenesis; hearing-impaired; deafness; sense of coherence; self-efficacy; locus of control; quantitative; non-parametric; employment.

South Africa's equity legislation demands the incorporation of persons with disabilities in the workforce. Owing to the unique challenges that these people face, they need well-developed salutogenic characteristics such as sense of coherence, self-efficacy and locus of control in order to integrate effectively into mainstream environments. The objective of the research was to explore these salutogenic constructs in the hearing-impaired adult population and to note differences between the different sub-groups within the sample (N = 63). A biographical form and combination of salutogenic questionnaires were employed to measure these constructs. Descriptive statistics and non-parametric tests were utilised to analyse the data. The results showed statistically significant inter-group differences in all three salutogenic constructs. These differences were found for age groups, onset of deafness, deafness category, primary school attended, hearing status of spouse and parents, and level of qualification.

## **CHAPTER 1            SCIENTIFIC BACKGROUND TO RESEARCH**

This dissertation of limited scope investigates the psychological strengths of hearing-impaired adults. In the present chapter a brief explanation with regards to the background and rationale behind the study, as well as the approach to the research, will be provided.

### **1.1 BACKGROUND TO AND MOTIVATION FOR RESEARCH**

In South Africa, with the advent of the new Constitution and laws and regulations such as the Employment Equity Act (no. 55, 1998), discrimination against minority groups has become a focus point in the workplace. Legislation in South Africa is forcing employers to take a closer look at diversity management here, not only from a race perspective, but also from the point of view of incorporating disabled individuals as a representative portion of the population of their work force (Employment Equity Act, No. 55, 1998). Organisations are being forced to incorporate previously disadvantaged groups into the workplace in a manner representative of the South African population (Employment Equity Act no. 55, 1998). This includes non-discrimination with respect to many minority groups, such as people with disabilities (Employment Equity Act no. 55, 1998).

Hearing-impaired individuals need to overcome profound obstacles and endure adverse circumstances in order to live mainstream lives on a par with hearing individuals (Rogers, Muir & Evenson, 2003). It is a difficult process for people with disabilities to obtain a mainstream job (Jones, 1991; Community Agency for Social Enquiry, 1997). Underemployment and unemployment are common among hearing-impaired individuals (Rogers, Muir & Evenson, 2003). Once they manage to find employment, they are often not treated as equals in the workplace (Jones, 1991; Silo, 1991; Community Agency for Social Enquiry, 1997) and consequently, many are over-qualified and underemployed for the jobs they currently hold (Jones, 1991; Community Agency for Social Enquiry, 1997). Also, because many South African people with disabilities have been previously disadvantaged, they often enter the workplace at a more mature age (Jones, 1991). Research indicates that very few physically disabled people ever apply for work in mainstream organisations, even though they may believe they are able to work (Frazee, 1996). Very often, even

when they take the plunge to become part of the work force, disabled people are not supplied with the necessary support systems that would assist them to integrate themselves into the workplace (Jones, 1991).

One of the more employable disabled groups constitutes the Deaf population (Norris, 1969). The jobs that such individuals are able to fulfil border on the infinite (Andrews, Leigh & Weiner, 2004). However, most hearing-impaired people struggle to achieve stature or even employment in the workforce. When they do enter employment, they are often not accorded the same opportunities for advancement available to their hearing peers. Hearing impairment is intrusive and strikes at the essence of being human, by hindering communication with others, restricting the ability to be productive, limiting social intercourse, reducing the constructive use of leisure time, affecting physical and mental health, often leading to poor self-image and isolation, and ultimately despair (Stone, 1987).

There is much literature concerning the attitudes towards and also attitudes of individuals who are disabled, but very little of this literature entails disability in the context of the workplace (Popovich, Scherbaum, & Scherbaum, 2003). Deaf people who complain about attitudes and stereotypes are seen as people who have not accepted who they are or what their disability is, or are said to have a chip on their shoulder (Silo, 1991). Disabled people also struggle to escape from their own and others' perceptions that they are different and have special needs (Silo, 1991). In a study by Barnartt and Christiansen (as cited in Andrews, Leigh & Weiner, 2004) it was found that despite improvements in education and occupational attainment, deaf adults were still disadvantaged compared to hearing adults.

Communication is but one of the obstacles that Deaf people face in the work environment. In spite of available technology (telephone texting services, email and others); there are still certain situations where Deaf people find it difficult to communicate with hearing people (Long, as cited in Wheeler-Scruggs, 2002). Furthermore, deafness is not only a disability, but people who grow up in the Deaf world also do so in a completely different culture from that of hearing people (Bat-Chava, 2000; Luckner & Stewart, 2003), bringing in the element of acculturation within the mainstream work environment.

With all the external aspects to contend with, it can be assumed that people face many challenges. Thus the question arises as to what makes some people with disabilities employable and others not. In resilience literature blindness, deafness and lack of mobility are regarded as vulnerabilities or factors that place those with these conditions at risk of non-resilience (Wang & Haertel, 1995). To be able to function in circumstances that prove to be difficult, it can therefore generally be accepted that individuals need to be psychologically strong and that those who succeed possess internal resources in the form of dispositional factors on which they draw to assist them in being fully functional (Rogers, Muir & Evenson, 2003). However, very few studies have focused on resilience-related aspects of hearing-impaired individuals (Rogers, Muir & Evenson, 2003), especially in the workplace.

The aim of the present study is to explore aspects relating to deaf and hard-of-hearing individuals and to investigate the influence of both internal psychological strengths, as well as external historical and background factors that could contribute to their employability and functionality in the workplace.

## **1.2 PROBLEM STATEMENT**

Very few work studies have been conducted in terms of disability in the South African workplace – the author found one study undertaken by Mthembu (1994). Other studies that have been undertaken focus on the rehabilitation and the process of applying to enter employment which disabled people follow (Schirmer, 2001). Studies have been carried out regarding the psychological strengths of other population groups (Pretorius & Rothmann, 2001), but none of these focus on salutogenic aspects relating to individuals with disabilities, and more specifically, to individuals with hearing impairment (Rogers, Muir & Evenson, 2003).

As a result of disabled individuals increasingly becoming part of mainstream organisations owing to legislative requirements, it is necessary to understand the applicability of the different categories of disabled individuals in order to formulate the necessary interventions to fully integrate them into the mainstream work environment.

Therefore the problem that will be determined in this study is to establish what the salutogenic profile of a specific group of disabled individuals, namely hearing-impaired individuals, looks like according to three salutogenic constructs, and to perceive how this profile differs in specific sub-groups that are found in the hearing-impaired population.

### **1.3 OBJECTIVES OF THE RESEARCH**

The present study includes a general objective, as well as specific objectives.

#### **1.3.1 General Objectives**

The general objective of the present study is to determine the salutogenic profile of hearing-impaired individuals according to three of the salutogenic constructs and to establish how these constructs manifest for specific sub-groups within the hearing-impaired population.

#### **1.3.2 Specific Objectives**

The specific objectives of this study are both theoretical (literature) and empirical. In terms of the theoretical objectives the specific objectives are to:

- Discuss salutogenesis and positive psychology;
- Discuss, from the literature, the three dispositional factors (Locus of Control (LOC), Sense of Coherence (SOC) and Self-Efficacy (SE)); and
- Conceptualise disability and, more specifically, hearing impairment and how this may be influenced by dispositional factors.

In terms of the empirical objectives, the specific objectives of this study are to:

- Describe the demographics of hearing-impaired individuals;
- Conceptualise dispositional profiles of hearing-impaired adults;
- Determine whether the dispositional profiles of hearing-impaired individuals differ according to gender, race, education background and other demographic variables; and
- Formulate recommendations in terms of future research with reference to salutogenic functioning and hearing-impairment.

#### **1.4 PARADIGMATIC PERSPECTIVE ON THE RESEARCH**

A paradigm is a collection of beliefs, assumptions or views that renders it possible to classify theorists in terms of their agreement on specific perspectives within a particular discipline (Mouton & Marais, 1996).

The present study is conducted in terms of the social sciences perspective, which can be described as a collaborative activity undertaken to objectively study social reality with the aim of gaining understanding of the latter (Mouton & Marais, 1996).

This study can be situated within the Industrial Psychology discipline. Industrial Psychology is defined as the application of psychological theory and methods to industrial and organisational problems dealing with a person's self, others, jobs, machines and operations, as well as the improvement of the selection of personnel and work procedures, all in the interest of establishing a productive and happy work environment (Corsini, 1999).

In the current study, the focus will fall on psychometrics and positive psychology as sub-disciplines of Industrial Psychology. Psychometrics refers to all aspects of psychological measurement, including the development and standardisation of instruments of assessment and the application of statistical procedures to interpret the outcomes (Plug, Louw, Gouws, & Meyer, 1997). Positive psychology focuses on the wellness aspects of individuals and on how these influence their ability to cope in their environment (Carr, 2004).

#### **1.5 RESEARCH DESIGN**

The research design is aimed at arranging the conditions for the collection and analysis of data in such a way that this remains relevant to the research purpose and is economically implemented. Research is planned and structured according to its purpose in order to enhance the internal and external validity of the study's findings and to minimise extraneous variables that could render the results invalid (Mouton & Marais, 1996).

### **1.5.1 Types of Research**

Descriptive research is employed in this study. Such research aims to provide an in-depth description of an individual, situation, groups, organisation, subculture, interaction or social object and looks at the frequency with which a specific characteristic or variable occurs in a sample (Mouton & Marais, 1996). It attempts to describe a phenomenon as accurately as possible.

Since this study focuses on accurately describing salutogenic constructs of hearing-impaired individuals, it is in accord with the definition of descriptive research.

### **1.5.2 Validity**

Mouton and Marais (1996) state that constructs must be measured in a valid manner in order for the research to be internally valid. This includes valid and reliable data collection; in addition, the measurement method should be accurate and the analysis should be relevant to the type of data collected. These guidelines were followed in the present study.

In terms of external validity, it should be possible to generalise the findings of the study across populations with similar characteristics and similar findings should be found in other studies that focus on the same phenomenon (Mouton & Marais, 1996).

### **1.5.3 Reliability**

Reliability in research can be achieved by limiting variables extraneous to the study as much as possible and ensuring that the information collected is verified through other sources such as subject experts and by employing a representative sample.

### **1.5.4 Unit of Research**

The units being researched comprise adult individuals who have a hearing impairment and live within the boundaries of South Africa. The present study will therefore focus on the characteristics of individual behaviour within this hearing-impaired community.

## **1.6 RESEARCH METHODOLOGY**

The research methodology followed in this study includes two phases, namely the literature review and an empirical study. Throughout the research process an effort was made to keep the integrity of the data and work within the boundaries of ethical practice.

### **1.6.1 Phase 1: Literature Review**

A literature study was conducted in relation to various aspects of the study. Positive psychology and salutogenesis were described and the salutogenic constructs LOC, SOC and SE were defined and described. Subsequently disability was defined and a historical overview given. Thereafter hearing impairment as a specific disability is defined and described. The last section of the review will deal with the integration of the salutogenic and disability themes.

### **1.6.2 Phase 2: Empirical Study**

A number of steps, which are briefly discussed below, were followed during the study.

#### *1.6.2.1 Step 1: Description of Population and Sample*

The data for this study was collected from the hearing-impaired population across South Africa. A convenience sample was drawn that relied on the availability of such individuals and their ability to complete the questionnaires.

#### *1.6.2.2 Step 2: Measuring Instruments*

Three measuring instruments were utilised to measure the salutogenic constructs. These instruments are the Locus of Control Inventory (Scheppers, 1995), the Orientation to Life Questionnaire (Antonovsky, 1987) and the Self-Efficacy Scale (Tipton & Worthington, 1984). A biographical information form was developed and included in the battery.

#### *1.6.2.3 Step 3: Data Collection*

Data collection took place by distributing the measurement battery to hearing-impaired individuals and having them return it completed. The data was coded where necessary and collated in a database.

#### *1.6.2.4 Step 4: Data Analysis*

The data obtained was analysed using the Statistical Package for the Social Sciences (2006) for statistical analysis. The statistical techniques employed were those of descriptive statistics and non-parametric significance tests (Kruskal-Wallis for more than two group comparisons and Mann-Whitney tests for the comparison of two groups). The effect size and power were not determined due to the small sample size (N=63).

#### *1.6.2.5 Step 5: Formulation of the Empirical Hypothesis*

Hypotheses were generated for the present study. These include:

1. As a group, hearing-impaired individuals that completed the questionnaires will show healthy salutogenic functionality. This will be demonstrated by:
  - an above-average score on the Locus of Control Inventory. This will comprise low scores on the External Control sub-scale and high scores on the Internal Control and Autonomy sub-scales.
  - An above-average score on the Orientation to Life Questionnaire. This will comprise high scores on all the subscales (manageability, comprehensibility and meaningfulness).
  - An above-average score on the Self-Efficacy Scale, which has no sub-scales.
  
2. There will be no significant differences in sub-groups among the hearing-impaired individuals. This will be indicated by there being no difference(s):
  - in salutogenic functionality with relation to gender;
  - in salutogenic functionality across deafness categories;
  - in salutogenic functionality owing to onset of deafness;
  - between the salutogenic functionality of employed and unemployed individuals;
  - in salutogenic functionality between respondents who were exposed to hearing education during primary and high school and those who attended schools for the deaf;
  - in salutogenic functionality between individuals with post-school qualifications and those with matric qualifications or lower;

- in salutogenic functionality between individuals with hearing parents and those with hearing-impaired parents; and
- in salutogenic functionality between individuals with hearing spouses and those with hearing-impaired spouses.

#### *1.6.2.6 Step 6: Reporting of Results*

Results were generated utilising a computerised statistical package devised for social science research. Results were generated for the hearing-impaired group as a whole, and differences between different sub-groups were analysed and indicated.

#### *1.6.2.7 Step 7: Interpretation of Results*

Results were discussed and opinions offered for the possible causes of the output generated by means of statistical analysis.

#### *1.6.2.8 Step 8: Formulation of the Conclusions, Limitations and Recommendations*

Lastly, the conclusions and the limitations of the study are briefly discussed, and recommendations for the future literature study and research topics are made.

## **1.7 CHAPTER DIVISION**

The chapters in this study are presented in the following sequence:

- Chapter 1: Introduction and background to the study;
- Chapter 2: Literature review of the salutogenic constructs, disability and hearing impairment;
- Chapter 3: Empirical study;
- Chapter 4: Results of the study;
- Chapter 5: Discussion of the study results; and
- Chapter 6: Conclusions, limitations and recommendations flowing from the study.

## **1.8 CHAPTER SUMMARY**

This chapter described the background and motivation behind the research study and stated the problem and objectives in terms of which the present study was undertaken. It also included information about the paradigm, research design and methodology as well as the chapter divisions.

In Chapter 2 the literature review is discussed, including aspects relating to salutogenic functioning, its constructs, disability and hearing impairment as a specific disability.

## **CHAPTER 2            SALUTOGENESIS, PSYCHOLOGICAL STRENGTHS AND HEARING-IMPAIRMENT**

The first aim of this chapter is to focus on the conceptualisation and description of salutogenesis as a development stemming from the positive psychology school of thought, and further to describe three of the psychological strengths that form constructs in the salutogenic paradigm, namely SOC, LOC and SE. First, the origin and history of salutogenesis will be described. Thereafter each of the said constructs will be defined and a short history given.

Secondly, the focus will fall on the conceptualisation and description of disability; thereafter, the specific disability will be defined in terms of hearing impairment in its three forms, namely, hard-of-hearing, prelingual/congenital deafness and postlingual/deafened. The implications and impact of hearing-impairment will subsequently also be described. The chapter concludes with a summary.

### **2.1 SALUTOGENESIS AND PSYCHOLOGICAL STRENGTHS**

The theory of salutogenesis was developed by Antonovsky, being defined as concerning the origins of health (Strümpfer, 1995). The interest in this concept began with his study of women in concentration camps, where the largest percentage of the women was shown to be poorly adapted to their life afterwards. However, 25 years after the experience, a percentage of these women were well-adapted. Antonovsky (1987) wanted to explore which factors made it possible for these people to survive and adjust after such traumatic circumstances, where all logic seemed to defy such adaptation.

Antonovsky (1987) named any phenomenon that might be effective in combating a wide variety of stressors as a generalised resistance resource (GRR). Common to all GRRs, Antonovsky (1987) proposes, that they facilitate making sense of the countless stressors with which one is constantly bombarded, assist in protecting against risks and support successful adaptation in the face of adversity. These characteristics may relate to individuals' personality, values, attitudes, social perception and self-perception (Rogers, Muir & Evenson, 2003).

Salutogenesis deals with the effective and successful coping of individuals in an environment that tends to be stressor-rich (Antonovsky, 2002). Moss (2002) found in one of his studies that most people are able to shape acceptable resolutions to difficult circumstances while some not only survive, but seem to mature in the face of difficulty and hardship. Salutogenesis therefore enquires into the question why certain people remain healthy or even thrive under circumstances that create stress, rather than investigating what it is that makes them ill or succumb to the negative consequences created by the stressors (Coetzee & Cilliers, 2001).

Strümpfer (1995) took salutogenic theory one step further so as to broaden it to include strength as a dimension of the paradigm, from whence the concept of fortogenesis, defined as the origins of psychological strength, developed. Wissing and van Eeden (1997) then incorporated the dimension of psychofortology, defined as the science of psychological strengths (Coetzee & Cilliers, 2001). In so doing they state that this investigated more than merely the origin of health and strength and had to do with psychological well-being as a whole.

The positive psychology school of thought developed from the salutogenic paradigm. Seligman's (2002) theory of positive psychology also emphasises strengths and de-emphasises weakness. The central objective of positive psychology is to understand and facilitate happiness and subjective well-being (Seligman, 2002) and it seeks to emphasise the study of human strengths and optimal functioning (Miller & Harvey, 2001). Many different approaches to positive psychology exist, but common to all is the basic premise that human beings possess the potential for a positive character or virtues (Jorgensen & Nafstad, 2004), which further builds on the concept of salutogenesis.

Aspects relating to salutogenesis and psychological strengths have pervaded the workplace context, emphasising Antonovsky's (1987) opinion that, in addition to being a significant influence on a person's salutogenic functionality, employment also plays a significant role in shaping this aspect of a person.

Strümpfer (1995) identified a number of constructs that conceptualise certain aspects of psychological wellbeing, including SOC, LOC and SE, as well as

hardiness, potency, and learned resourcefulness. Due to the length of the questionnaires and the limited scope of this study, the focus will fall on the first three constructs mentioned, namely SOC, LOC and SE, as they apply to deaf individuals. These three constructs form part of the salutogenic paradigm, and are seen as sources of strength through which stressing conditions can be endured and even transcended and that stressors can stimulate continual growth and strengthening (Strümpfer, 1995). The constructs will be discussed in greater detail in the following sub-sections.

### **2.1.1 Sense of Coherence (SOC)**

SOC is viewed as a dispositional factor and construct that forms part of the salutogenic or salutogenic paradigm (Coetzee, 2003). It is defined as a global construct that expresses the extent to which one enjoys a pervasive, enduring though dynamic feeling of confidence that one's internal and external environments are structured, predictable and explicable, that the resources are available to meet demands posed by different stimuli and that the demands are worthy to invest and engage in (Antonovsky, 1987). SOC comprises three sub-aspects – comprehensibility, manageability and meaningfulness, as proposed by Antonovsky (1987).

- Comprehensibility refers to the perception of the individual that stimuli from the external and internal environments are structured and predictable;
- Manageability refers to the perception that resources are available to meet the demands posed by the said stimuli; and
- Meaningfulness refers to the perception that the demands posed are challenges worthwhile spending energy on.

Antonovsky (1993, p.731) regards his SOC construct as “*a global orientation to one's inner and outer environments which is hypothesized to be a significant determinant of location and movement on the health ease/disease continuum*”. He further perceives this construct to be universally meaningful and as cutting across lines of gender, social class, region and culture. SOC theory postulates that a person's SOC is stabilised by the end of young adulthood, after which mild fluctuations are indicated, if there are no major changes in the patterns of life experiences (Antonovsky, 1993). He postulates that it does not refer to a specific type of coping

strategy, but encompasses factors that always constitute the basis for successful coping with stressors, in all cultures. However, he also admits that this may not mean that different groups will have an equally strong average SOC (Antonovsky, 1993).

A strong SOC is associated with effective coping, reduced negative reaction to stress, fewer health-damaging behaviours and, as an end result, improved morale, somatic health and social adjustment (Frenz, Carey & Jorgensen, 1993).

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

Julian Rotter (1966) introduced the construct of LOC. It describes the extent to which individuals take responsibility and hold an expectancy that they have control over events in their lives and that their actions can influence the outcome of these events (Rotter, 1966). Individuals who believe that they can control what happens to them are said to possess an internal LOC, while those who tend to think about what happens to them as a function of something outside themselves (luck, fate or powerful others) have an external LOC (Rotter, 1966). The beneficial effects of perceived control are in part determined by the desirability of control (Carr, 2004).

According to Rotter (1966), individuals differ in the degree to which they expect important sources of reinforcement to be within their control or instead influenced by external factors such as chance, fate, or the actions of other powerful people. An extensive literature has developed which supports the beneficial effects, for most people, of an internal LOC and strong autonomy, as regards psychological adjustment and physical health (Lefcourt, 1982) with an external LOC being less preferred.

An internal LOC is regarded as a key factor in creating resilience in the face of adversity (Werner & Smith as cited in Baylis, 2004), in high achievement in the face of social disadvantage (Harrington & Boardman as cited in Baylis, 2004) and in happiness (Myers, as cited in Baylis, 2004). LOC seems to have its roots in the formative years and is shaped by factors such as parenting, societal restraints and socio-economic status. It may also to some extent be hereditary (Coetzee, 2003).

### **2.1.3 Self-Efficacy (SE)**

Bandura first conceptualised SE, which was embedded in his broader social-cognitive theory of personality (Carr, 2004). Bandura (1982) originally defined SE as an individual's belief that he/she can successfully use their abilities and skills to reach a given goal.. It is therefore concerned with judgments concerning personal capabilities (Carr, 2004); an individual's belief that he/she can successfully perform a required behaviour for a specific task (Coetzee & Cilliers, 2001). Bandura (1997) postulates that SE reflects the judgment of an individual's ability to accomplish a certain level of performance, and that it is a relatively enduring set of beliefs that one can cope effectively in a broad range of situations (Bandura, 1997).

SE beliefs are constructed from five sources of information (Bandura, 1997):

- Mastery experiences;
- Vicarious experiences;
- Imaginal experiences;
- Social persuasion; and
- Physical and emotional states.

At a cognitive level, people with a high perceived SE demonstrate greater cognitive resourcefulness, strategic flexibility and effectiveness in managing environmental challenges (Carr, 2004). They make use of a future time perspective to structure their lives, and focus on potentially beneficial opportunities rather than risks (Carr, 2004). At a motivational level, people with strong SE beliefs set challenging goals, expect their efforts to produce good results, ascribe failure to controllable factors such as insufficient effort, inadequate strategies or unfavourable circumstances rather than uncontrollable factors such as lack of ability, view obstacles as surmountable and consequently are motivated to persist in striving to achieve their goals. Experimental research strongly suggests that SE is a powerful predictor of behaviour (Bandura, 1997) and that a better understanding of SE can lead to more effective behavioural change. An individual's SE expectations determine the activities the individual engages in, how much effort he/she will expend and how long he/she will persevere in the face of adversity (Coetzee & Cilliers, 2001). Individuals

high in SE are more likely to confront their stressors (Kinicki & Latack as cited in Sivanathan, Arnold, Turner & Barling, 2004).

Individuals with a history of varied and numerous experiences of success could be expected to enjoy positive self-efficacy expectancies in a greater variety of situations than individuals with experiences of limited success and more failure (Sherer & Maddux, 1982).

#### **2.1.4 The Relationship between Self-Efficacy (SE), Sense of Coherence (SOC) and Locus of Control (LOC)**

Antonovsky (as cited in Coetzee, 2003) provides an explanation of how SOC, SE and LOC are integrated as salutogenic constructs. He linked these constructs in terms of the following:

- All individuals are exposed to and living in an external environment. When considering SE it is assumed that tasks are continually set by the environment; while the construct LOC assumes a continual occurrence of events, and as regards SOC it is assumed that stressors are present all the time.
- Information received from the environment must in some measure be clear and must possess content that allows a degree of freedom and choice for the individual in order to contribute to his/her salutogenic strengths. If not, the information collected from the environment can be experienced as noise or as being imposed in an illegitimately forceful manner. The three constructs can therefore be linked.
- If the information received from the environment is not clear, the information must be processed through sorting, translation, coding and integration. The issue regarding how to order and prioritise the complexities of even the benign information that bombards people is dependent on the extent that individuals are able to do so, and by doing so their strengths are improved.
- Apart from the capacity to integrate the information, make sense of its complexities and bear with the noise and messages to formulate a plan of action, individuals need motivational, emotional, cognitive and instrumental, personal and social resources to carry out the formulated plan, which guarantees a salutogenic-enhancing experience.

- The constructs can be linked based on feedback received from the environment regarding how appropriate the behaviour of an individual is perceived to be.

Therefore Antonovsky (as cited in Coetzee, 2003) proposed that SOC, SE and LOC are linked, based on the systems theory and its principle of processing information, as described in the above paragraph.

Other literature that links the different constructs includes:

- Rotter (1966), who links SE and LOC by explaining that both constructs are cognitive and related to the aspect of control.
- Bandura (1977), who links SE and LOC by describing SE as the belief of individuals in their own abilities to exercise control over events in their lives.
- Breed (1997), who found a statistical relationship of 0,37 and 0,41 between SE and LOC when investigating the relationship between the constructs of the salutogenic paradigm in two cultural groups, namely whites and other groups at the University of South Africa. She also linked SOC and LOC with correlations of 0,53 and 0,39 for the two different cultural groups and found a correlation of 0,53 and 0,29 between SE and SOC for the two culturally different groups.
- Bono and Judge (2003), who confirmed the relationship between LOC and SE by explaining that LOC is an individual's belief in their ability to control their environment. It is therefore a logical assumption that individuals who perceive themselves as able to perform across a variety of contexts (generalised SE) would see themselves as exercising control over their environment.
- Judge, Erez, Bono and Thoresen (2002), who conducted a meta-analysis on the relationship between the traits, using studies from the ten psychology journals most likely to include studies on trait pairs. Their analysis revealed an estimated population level correlation of 0,56 between LOC and SE.
- Gist (1987) also indicated that LOC is a generalised construct covering a variety of different situations, whereas SE (from a task specific perspective) measures individuals' beliefs that they could perform a specific task at a

specific level of expertise. Consequently a person can exhibit a strong internal LOC in general, but a low SE pertaining to specific tasks in specific areas.

- Kalimo and Vuori (1990), who linked SOC and LOC by stating that the SOC construct includes issues that can be found in LOC theory. SOC is similar to LOC because both lead to anticipatory health-promoting orientations. Individuals develop healthy orientations because a general, realistic and active sense of control results from the presence of these concepts.
- Antonovsky (1987) postulated that SOC indicates similarities with self-efficacy, even though self-efficacy is not primarily conceptualised in the salutogenic paradigm. He stated that when self-efficacy is dependent on three conditions, that is, firstly, the belief that a certain outcome is important (meaningfulness); secondly, that the performance of certain behaviour contributes to this outcome (comprehensibility); and lastly, that behaviour can be executed successfully (manageability), similarities would apply.

## **2.2 DISABILITY AND HEARING-IMPAIRMENT**

In this section the conceptualisation and definition of disability will be discussed, after which hearing impairment will be described as a specific disability. The three forms of such impairment will also be defined.

### **2.2.1 Disability**

Approximately 600 million people world-wide live with some form of disability (World Health Organization, 2006), which currently constitutes about 10% of the world's population. In developing countries such as South Africa, it is estimated that 80 percent of all disabled persons live in rural areas where the resources are in most cases not sufficient to meet the rehabilitation needs of these people (Bugu, 2006). Disability is a complex interaction between an individual's physical, intellectual or mental functional limitations and that which the social and physical environment requires of the individual (Anazonwu, as cited in Bugu, 2006). The definition of disability and the meaning of being disabled are also open to interpretation (Philpott, 1995). Different institutions include different elements in their particular definitions.

Over the centuries, the definition and classification of people with disabilities have undergone a number of changes (Disabled People of South Africa, 2000). The various approaches to defining disability include:

- The biomedical definition which views disability as being identified with illness and impairment, where an emphasis is placed on curing the disabled individual.
- The philanthropic view perceives disability as a tragic and charitable state where the emphasis is placed on pitying, providing handouts and institutional care for disabled people.
- The sociological viewpoint regards disability as a human deviation from what society perceives the norm for acceptable performance of activities.
- The economic view considers disability as a social cost owing to the perceived limited abilities of disabled people and the extra resources being required for them to function.
- Lastly, the socio-political view postulates that disability needs to be defined within its context and that the focus should be placed not on the inability of the people, but on the social environment where the disability is located.

Current definitions of disability found in the literature differ. In the South African census of 2001, disability was defined as *“a physical or mental handicap which has lasted for six months or more, or is expected to last at least six months, which prevents the person from carrying out daily activities independently, or from participating fully in educational, economic or social activities.”* (Statistics South Africa, 2005) However, this definition of disability differs from that utilised during the Census 1996; therefore, comparisons cannot be made with respect to this period of time (Health Systems Trust, undated).

On 27 October 2004, the Minister of Health, Manto Tshabalala-Msimang, announced the following working definition of disability during a media briefing:

*“A disability is a moderate to severe limitation in functioning (activity) or participation restriction that is permanent. Disabilities are normally classified as physical,*

*sensory, communication, intellectual and mental. The activity/functional limitation or participation restriction needs to exist after correction or control of impairment.”*

The International Labour Organisation (2002) defines a disabled person as “*an individual whose prospects of securing, returning to, retaining and advancing in suitable employment are substantially reduced as a result of a duly recognized physical, sensory, intellectual or mental impairment.*”

The World Health Organisation (2006, p. 1) defines disability as “*the outcome or result of a complex relationship between an individual’s health condition and personal factors, and of the external factors that represent the circumstances in which the individual lives*”.

The Employment Equity Act (No. 55, 1998) – hereafter referred to as the EEA – states that:

*People are considered as persons with disabilities who satisfy all the criteria in the definition:*

- (i) having a physical or mental impairment;*
- (ii) which is long term or recurring; and*
- (iii) which substantially limits their prospects of entry into, or advancement in employment.*

This definition focuses on the effect of a disability of the person in relation to the working environment, and not on the diagnosis or impairment.

In the present study, however, disability is defined according to diagnosis or impairment, as reported by the respondents.

### **2.2.2 History of Disability**

The first written record of disability is found 3500BC in The Rig-Veda, an ancient sacred poem from India (Disability Social History Project, undated).

The Western history of disability begins in early Greek civilisation, where the limits of humanity were drawn at the typical body composition (Stiker, 2000). Thus anything that was different from the norm in terms of vision, hearing and mobility could therefore be labelled since it could be observed and described (Depoy & Gilson, 2004).

With the advent of capitalism during the 18<sup>th</sup> century, disabled people were used as cheap labour – they worked unpaid under the auspices of therapy - and were often exploited in the development of the “disability industry” where interest groups derived economic benefit from providing care systems and facilities to people with disabilities, which became a worldwide multi-billion dollar industry (Depoy & Gilson, 2004).

Europe, during the Post-World War 1 period, experienced the high unemployment of the disproportionate number of people left disabled by the war (Waddington, as cited by Buga, 2006). By 1923 the laws of all the European countries provided for quotas of disabled people who should be employed as part of the workforce and legislation governing the employment of people with disabilities has since been improved and furthered (Buga, 2006).

In the current era, with the recognition that disabled people form a large consumer market in terms of special needs equipment and technology, there is an increasing shift from not-for-profit to profit activities in the disability sector (Depoy & Gilson, 2004). In the USA, organisations also make use of special needs equipment in order to comply with the requirements of the EEA with regards to reasonable accommodation for people with disabilities (Depoy & Gilson, 2004).

South Africa’s history of managing disability through legislation is relatively new (Buga, 2006). Historically, in Southern Africa, African workers who were employed in the mining industry would be sent back to the rural areas if they became disabled and replaced by able-bodied people (Livingstone, 2006). In certain African tribes during the 1950-1960s, disability was perceived as a curse that was placed on the women who bore disabled children as a punishment for wayward living and aberrant sexuality (Livingstone, 2006). Because of this perception, women would hide their

disabled children, which further stigmatised disabled people as being inferior and worthless (Livingstone, 2006).

The laws during the apartheid era supported the isolation of people with disability (Buga, 2006). When the United Nations designated 1981 as the Year of Disabled Persons, individual communities in South Africa formed coordinating committees to work on disability issues, laying the foundations for the South African Disability Rights Movement, in spite of the government of the day choosing not to recognise this year (Jagoe, undated). Also, during the 1980s the Disabled People of South Africa (DPSA) started advocating for the rights of people with disabilities while in 1994 the DPSA negotiated for key government positions to ensure that disability rights were included in policies and legislation (Buga, 2006). A major landmark occurred in the advocacy for disability rights in Southern Africa in 1995 when Maria Rantho, a female disability leader, was elected and appointed to parliament in South Africa (Disability Social History Project, undated).

In economically developing countries such as South Africa, disability programmes have been adopted on a small scale, but owing to high costs seldom reach the target population (Buga, 2006). Currently, approaches such as community-based rehabilitation are being followed owing to these approaches being more appropriate to the social and economic conditions of such countries (Buga, 2006).

At present, owing to the focus on equity, discrimination is viewed as a social and political taboo, with policy and legislation officially promoting human and civil rights across all cultures and sub-groups. Furthermore, these legal aspects do not permit organisations to discriminate unfairly with regards to work and employment (Depoy & Gilson, 2004), and consequently, have necessitated a whole new paradigm shift in terms of the inclusion and full participation of people with disabilities in the workplace, which results in other issues in terms of the integration of people with disabilities into mainstream organisations (Depoy & Gilson, 2004).

The Government of South Africa has adopted the socio-political viewpoint in the Integrated National Disability Framework in South Africa. Thus, from this viewpoint, aspects relating to reasonable accommodation would follow (Disabled People of

South Africa, 2000). South Africa's EEA stipulates that reasonable accommodation needs to be made available for people with disabilities (Employment Equity Act, 1998; Buga, 2006). Other legislation in South Africa that currently supports the empowerment of people with disabilities includes:

- The Code of Good Practice on Employment of People with Disabilities (2003);
- The Promotion of Equality and Prevention of Unfair Discrimination Act (No. 4 of 2000);
- The Labour Relations Act (No. 66 of 1995);
- The Social Assistance Act (No. 59 of 1992);
- The Skills Development Act (No 97 of 1998);
- The South African Schools Act (1996);
- The Compensation for Occupational Injuries and Diseases Act (No. 130 of 1993); and,
- The Road Accident Fund Act (No. 56 of 1996).

As can be inferred from the trends and strategies in history, a precedent for the exploitation or isolation of individuals with disabilities prevailed for a very long time. Elements of this problem may still exist in the present day, but may well go unnoticed in the light of current legislation. With the advent and acceptability of diversity, the acknowledgement of differences became more commonplace, but it still creates friction and intolerance that leads to natural segregation, and people with disabilities are still compromised with regard to opportunity, autonomy and self-sufficiency, to name but a few issues (Depoy & Gilson, 2004).

Even though people with disabilities constitute between 2% and 5% of the South African population (depending on which definition is utilised), it was found by Mthembu (1994) that disabled people (more specifically deaf persons) experience problems in finding employment. In South Africa people with disabilities have also been excluded from mainstream society in the past (Department of Labour, undated), and in spite of the roll-out of the EEA and Disability Code which outlaws discrimination against people with disabilities, such people are still finding it difficult to find employment (Toni, 2003).

Research by Frazee (1996) also indicates that very few physically disabled people ever apply for employment in mainstream organisations, even though they may feel ready and able to work. It is a difficult process for disabled people to obtain a job, since they must contend with the varying methods of collecting and providing the correct information in order to make an application and then cope with selection processes that may not take their special needs into consideration (Norris, 1969). There are many cases of disabled people, who, once they have managed to gain employment, are not treated as equals in the workplace (Jones, 1991; Silo, 1991) and because of this many are over-qualified and underemployed for the jobs they currently hold (Jones, 1991). Furthermore, because of previous disadvantage, many South African disabled persons are only entering the workplace at a more mature age (Jones, 1991). Very often, even when they endeavour to become part of the work force, people with disabilities are not supplied with the necessary support systems that would assist them to be integrated into the workplace (Jones, 1991; Buga, 2006). Studies have shown that the cost of accommodating disabled individuals in the workplace is relatively low (Burke, 1999) and hence the participation of people with disabilities could be enhanced (Wang, Badley & Gignac, 2004).

Since the new Constitution in South Africa in 1996, much attention has been paid to developing equal opportunity legislation that includes people with disabilities. The Employment Equity Act (No. 55 of 1998) has also formed the basis for policies, procedures and the development of guidelines such as the Technical Assistance Guidelines on the employment of people with disabilities (Department of Labour, undated).

Literature regarding attitudes toward individuals who are disabled abounds, but very little of it examines disability in the context of the workplace (Popovich, Scherbaum & Scherbaum, 2003). It is, however, necessary to understand the aspects of attitudes toward individuals with disabilities in the workplace to be able to incorporate effective intervention methods in order to fully integrate these members into employment systems (Popovich et al, 2003).

### **2.2.3 Hearing-impairment**

In the present study, the focus will fall on a certain category of disability, namely hearing-impairment and its different forms. The definition of general hearing-impairment is specified in terms of the categories of deafness that will be utilised. Thereafter, a short history of such impairment is given.

#### *2.2.3.1 Definition of Hearing-impairment*

Hearing-impairment is defined as the audiological condition of hearing loss (Padden & Humphries, 1988) and can differ in its onset and severity. The categories of hearing-impairment that will be utilised are described in the following sections, as provided by die Deaf Society of South Africa (Deaf SA, 2006).

#### *2.2.3.2 Deaf Category: Hard-of-Hearing*

Hard-of-hearing refers to the hearing impairment where a person has minimum to moderate hearing loss – whose primary communication is the spoken language and who could in most circumstances benefit from a hearing aid (Deaf SA, 2006). The term *hard-of-hearing* is increasingly being applied to people with all levels of hearing loss whose communication mode is primarily oral-aural and who effectively use their residual hearing supplemented by speech-reading and assistive hearing devices (Israelite, Ower & Goldstein as cited in Punch, Hyde & Creed, 2004).

#### *2.2.3.3 Deaf Category: Prelingual/Congenital Deafness*

Prelingual/congenital deafness refers to a hearing condition where the person was born deaf or became deaf before the acquisition of the language of her/his immediate family. Such a person has a moderate-severe to profound hearing loss, belongs to the deaf culture and usually uses sign language as the primary mode of communication (Deaf SA, 2006). Persons who are deaf at birth or become so early in life, often rely solely on sign language or another form of manual communication. Their language is primarily visual, and because of their relative isolation from the majority culture, they form strong in-group interaction patterns (Raifman & Vernon, 1996).

#### *2.2.3.4 Deaf Category: Post-lingual/Deafened*

Post lingual/deafened refers to hearing impairment where a person acquired moderately severe to profound hearing loss after the acquisition of a spoken

language and is dependent upon the visual sense for additional information for the purposes of spoken communication (Deaf SA, 2006). Kaland and Salvatore (2002) found that, for these individuals:

- When hearing loss occurs, it is a very disorienting experience;
- Rapid losses are more disorientating than gradual losses;
- Late deafened adults often report that their hearing loss robs them of an understanding of their identity and often initiates an identity crisis which may manifest in reactive depression and/or anxiety in response to a typically external situation; and
- People in this situation often need to be taught new ways to interact in the world in order to increase their involvement.

It is important to note that most studies do not differentiate between people who use a sign language and those who are primarily oral-aural in their communication (Punch, Hyde & Creed, 2004). Therefore, such a differentiation will also not be employed for the purpose of the present study.

#### **2.2.4 The History of Hearing-Impairment as a Disability**

In 335 BC Aristotle is quoted as having said that people born deaf can become senseless and incapable of reason (Disability Social History Project, undated). In the year 1500, however, a physician by the name of Girolamo Cardano recognised the ability of deaf people to reason and as early as 1616 AD a treatise was published that addressed the use of sign language (Disability Social History Project, undated). In 1755 the first oral school for the deaf was established in Germany while the first free school for the deaf was commissioned in Paris, France (Disability Social History Project, undated). Other deaf schools followed in England (1760) and Italy (1784). In 1815 Thomas Gallaudet travelled from the USA to Europe in order to discover methods to teach the deaf; he returned in 1816 with a French citizen to open the Connecticut Asylum for the Education and Instruction of Deaf and Dumb Persons in Hartford on 15 April 1817 (Disability Social History Project, undated). In 1822 vocational training was added to the curriculum of the American School for the Deaf and in 1846 the American Annals of the Deaf was published for the first time. In 1872 Alexander Bell opened a speech school for teachers of the deaf and in 1887 women were admitted to the National Deaf-Mute College, which has been known as

Gallaudet University since 1894. The first deaf census was conducted in the USA in 1974 by the National Association of the Deaf. History was made at Gallaudet University in 1988 when it appointed its first deaf president, namely Dr. King Jordan (Disability Social History Project, undated).

In Southern Africa the history of the deaf is interwoven with the general fight for disability rights, as discussed in a previous section of this study. However, deaf education began in South Africa in the 1860s when missionaries (in a study of deaf people mentioned in historic documents) found many references to deaf people in various parts of the African continent (Miles, 2004). References to hearing-impairment are also found in two African proverbs (Miles, 2004). Also, reference is made to the Deaf School in Worcester in the Cape Province, founded as early as 1881, and several formal schools for the deaf were opened before 1900 (Miles, 2004). Andrew Foster was the first African American to graduate from Gallaudet College (now Gallaudet University) and is widely known as the father of deaf education in Africa, establishing a multitude of schools for the deaf throughout Africa, leaving in his wake educated deaf Africans who were able to train their own people (Kiyaga & Moores, 2003). It is also recorded that education was undertaken with Black deaf people in Soweto in the 1970s and 1980s (Miles, 2004). Barnes (1929) mentions that he visited a deaf club run mostly by deaf people in South Africa.

Therefore documentary evidence is available that deaf people have been active in the African sphere in early centuries and have contributed to the history of South Africa and other African countries (Miles, 2004).

### **2.2.5 Being Deaf in a Hearing World**

The consequences of being hearing-impaired differ depending on aspects such as the age of onset, type of impairment, and the severity of the impairment (Thomas, 1984). Studies have indicated that deaf people feel that they have something to offer as a contribution to most aspects of life (Silo, 1991). However, he also notes that it can be demotivating for disabled individuals who want to, and are able to, contribute but cannot find a channel to do so, and that this demotivation then makes it difficult for them to allow themselves the love and respect they need in order to keep believing in their contribution. This causes a psychological downward spiral

into self-disempowerment as well as disempowerment from outside (Silo, 1991). Deaf people who complain about negative attitudes and stereotypes are often perceived by able-bodied individuals as people who have not accepted who they are nor the nature of their disability, or are said to have a “chip on the shoulder” (Silo, 1991). Even though this may be a false perception, some disabled people struggle to rid themselves of these perceptions in their own minds as well (Lad & James, 1991).

In many parts of the world, major changes have been observed regarding the deaf culture and the integration of deaf individuals into mainstream communities (Nikolarazi & Makri, 2004). However, deaf people experience multiple occasions in which communication within their work environment (among others) is limited because it is based solely on speaking and listening, and rarely includes sign language (Nikolarazi & Makri, 2004). Email and Short Message Sending (SMS) has opened more doors, but often these tools are also beset with limitations owing to the limited language skills of many deaf people. According to Gert Els (personal communication, 15 April 2006), the seemingly illogical thinking and writing patterns of hearing-impaired individuals could distort the messages sent.

As with their hearing counterparts, many deaf people are also caught in the perceptions of the oralist philosophy where the belief is that hearing is the norm and that speech reigns supreme. Signing, or any other method of communication, is therefore for those who cannot cope in the “normal world” (Silo, 1991). This perception is internalised by deaf people, which further disempowers them (Jankowski, 1997). Deaf people may internalise a community’s negative attitudes towards them (Hurwitz, Weisel, Parasnis, DeCaro & Savir as cited in Nikolarazi & Makri, 2004) or may misunderstand these attitudes and react in a negative manner (Nikolarazi & Makri, 2004).

Negative attitudes and stereotypical thoughts negatively affect deaf people’s feelings of self-worth (Strong & Shaver, 1991). Qualified deaf people are treated with contempt and their abilities and qualifications questioned. Many hearing individuals continue to display prejudice with regards to the abilities of deaf people as a whole (Silo, 1991). However, deaf people are conscious of stereotypes and may be prone

to exaggerate the extent thereof, believing that hearing individuals hold even stronger negative attitudes towards them than is really the case (Nowell & Marschark, 1994).

Certain professionals in the field of disability maintain that hearing-impairment should not be viewed as a deficiency, but rather that it constitutes a difference that places no limits on social, emotional, intellectual or academic development (Lane, Hoffmeister & Bahan, as cited in Luckner & Stewart, 2003).

Freebody and Power (as cited in Luckner & Stewart, 2003), indicate three inflections of hearing-impairment, namely, as a disability, impairment or disorder, a logistical problem or the basis of a social community or culture in its own right.

In terms of themselves, deaf people hold a diversity of views and attitudes towards themselves and other deaf people (Nikolarazi & Makri, 2004). These occur as a result of their different experiences of hearing-impairment, such as age, onset of the impairment, educational setting, hearing or deaf parents, level of contact with other deaf people and exposure to oral and sign language (Nikolarazi & Makri, 2004).

However, the view that hearing-impairment is a disability presently seems to be much less prevalent (Bat-Chava as cited in Nikolarazi & Makri, 2004). Rather, it is gradually being acknowledged that deaf people form a culturally distinct group, although they also consist of a widely diverse group of people (Nikolarazi & Makri, 2004). Indeed, it has been shown that deaf individuals who identify with the deaf culture display a stronger sense of self-concept and higher self-esteem (Bat-Chava, 1993; Yachnik, 1986).

Hearing loss renders communication with the outside world difficult, and the personal characteristics of individuals affect their adaptation to hearing loss (Kaland & Salvatore, 2002). The level of functioning of a deaf individual also plays a role in their adaptation to their environment. For instance, one particularly salient characteristic of people who are both deaf and low functioning is exceptional difficulty with communication, regardless of the manner in which it is conducted, whether by means of reading, writing, speech, speech-reading, signs or gestures

(Long, as cited in Wheeler-Scruggs, 2002). This in itself would limit the individual and render adaptation to the hearing environment that much more difficult.

## **2.2.6 Deaf Individuals and Employment**

Deaf people generally struggle to achieve stature or even employment in the workforce (Andrews, Leigh & Weiner, 2004). When they do enter employment, they are often not accorded the same opportunities for advancement available to hearing peers owing to real and perceived limitations. These will be discussed with relation to education, gender, hearing-impairment category, onset of hearing impairment, employability and communication.

### *2.2.6.1 Hearing-Impairment and Education*

Relative to their hearing peers, deaf and hard-of-hearing individuals have been found to be less educated, experience more unemployment and underemployment and to receive lower incomes (Punch, Hyde & Creed, 2004). Pienaar (1994) found that training seemed to be an important need for deaf people, since this equips them to compete on equal grounds with competitors in the work situation. There are very few examples of career successes in the deaf minority (Andrews, Leigh & Weiner, 2004). In this respect the perceptions of able-bodied people are that individuals with a disability are not capable of most other skills (Jones, 1991). Historically, deaf people have more frequently been found in jobs ranging from unskilled to skilled labour (Christiansen, 1994), rather than highly skilled and managerial positions. Mthembu (1994) established that the majority of deaf employees are totally unprepared for the open labour market and are inadequately trained. Also, the more qualified deaf people become, the less they are liable to receive any type of disability or unemployment subsidy from governments (Andrews, Leigh & Weiner, 2004). In a study carried out by Christiansen and Barnartt (1995) it was discovered that despite improvements in education and occupational attainment, deaf adults were still disadvantaged compared to hearing adults. Under-employment and underdevelopment have characterised the status of deaf individuals, who are routinely referred to as low functioning or traditionally underserved.

Even though deaf workers as a group have long since proven themselves to be good workers, the struggle for equality in accessing the workplace continues (Andrews,

Leigh & Weiner, 2004). There are very few employment options for deaf people after school and graduation, even though they may have much to offer (Silo, 1991). Perceptions also play a major role. Hearing people seem to feel that there is something “wrong” with deaf people (Silo, 1991). It takes much for a deaf person to prove themselves capable and they often have to perform above normal expectancy to be taken seriously as a resource and not a disadvantage. Deaf and hard-of-hearing individuals have historically experienced much difficulty in achieving parity of employment outcomes with normally hearing people (Punch, Hyde & Creed, 2004). Pienaar (1994) established that the greatest frustrations experienced by deaf people within the work situation were unsatisfactory work placements, under-utilisation, unskilled trainers and inapplicable training. However, Thomas (1984) discovered that a high level of job satisfaction was experienced among a group of clerical workers, which he ascribed to these individuals having lower expectations of advancement in the workplace, and sympathy and helpfulness from colleagues and employers.

#### *2.2.6.2 Hearing Impairment and Employability*

The jobs that deaf individuals are able to fulfil are very numerous, as indicated earlier. In countries such as the USA, disabled people are protected by the Americans with Disability Act (Colbridge, 2000) and deaf individuals have been able to enter into the upper echelons of government (Andrews, Leigh & Weiner, 2004). However, deaf individuals have also been found to spend less time in each job, earn lower wages, work slightly longer hours than hearing individuals and enjoy less job mobility and advancement (Schirmer, 2001). Mthembu (1994) found that deaf individuals were unable to retain their jobs and experienced problems with retrenchment or dismissal and absconding. However, in his study on employment of deaf people in South Africa, Dixon (1987) postulates that deaf people exhibited above-average safety records and very high concentration levels, did not take their jobs for granted and showed greater loyalty to their employers within the work situation. Venter (1992) found that most jobs could be mastered by deaf people, but that deaf people were preferred in certain work situations, owing to their high abilities to concentrate. In whichever manner the work performance of hearing-impaired individuals is perceived, studies have confirmed that work is likely to prove a source of stress for these individuals (Thomas, 1984). For the sake of their adjustment at

work, it is important that the expectations of both the deaf employee and his/her employer are managed. Both parties must learn how to cope with feelings of helplessness, rejection, resentment and mistrust (Mthembu, 1994).

#### *2.2.6.3 Hearing-Impairment and Gender Groups*

Deaf women have been noted to be less educated, to experience greater unemployment and underemployment and to receive lower incomes than deaf men, even though those of deaf men had already been discovered to be below those of hearing adults in general (MacLeod-Gallinger, 1992). Christiansen and Barnartt (1995) established that despite improvements in education and occupational attainment, deaf adults were still being disadvantaged compared to hearing adults, and this time the differences were larger for men than for women compared to hearing adults. In another study, it was observed that deaf women and men tended to experience similar levels of unemployment in their twenties; but beyond their mid-thirties, deaf women tended to be unemployed at higher rates than deaf men, in spite of attaining similar levels of education (MacLeod-Gallinger, 1992).

#### *2.2.6.4 Hearing-Impairment and Deafness Category*

One of the most fundamental distinctions regarding the consequences of being hearing-impaired is that between prelingual and postlingual hearing impairment (Thomas, 1984). Findings show that education (and therefore work achievement) is affected more if an individual is prelingually deafened (Thomas, 1984). The issues and aspects that have to be coped with in the mainstream world are different for pre- and postlingually deafened individuals (Thomas, 1984). There would also be differences between those who are hard-of-hearing and those with severe hearing-impairment. Interestingly, studies indicate that the educational, occupational and economic attainments of hard-of-hearing graduates were significantly less than those of deaf graduates (Punch, Hyde & Creed, 2004).

#### *2.2.6.5 Hearing-impairment and Onset*

The age at which an individual becomes hearing-impaired also exerts an influence on coping with aspects relating to work. If born deaf, an individual struggles to master verbal or written communication skills and will most likely communicate only in sign language (Denmark, 1994). McKenna (1993) indicates that SE development

can be influenced if a baby is born deaf. If deafness occurs at an age after speech and language have been learned, the consequences of and coping with the hearing impairment will be different, in that deafened individuals must learn to cope with a loss and adjust to being hearing-impaired (Thomas, 1984). Also of importance is whether the acquired hearing impairment is sudden (traumatically deafened) or whether it occurs over a longer period of time (progressively deafened), since this carries implications for adjustment in mainstream environments such as the workplace (Lysons, 1996).

McKenna (1993) refers to studies indicating that acquired hearing-loss in people of employment age led to loneliness and isolation caused by the reduction of personal contacts and difficulties in communicating, but that this was much less of a problem for the elderly deafened individuals.

#### *2.2.6.6 Hearing-Impairment and Communication*

In the work setting it has been observed that communication is a possible determinant of quality of life, especially for deaf individuals (Foster & MacLeod, 2003). Workplace situations reported by deaf and hard-of-hearing individuals as being the most difficult with which to contend, involve group situations such as departmental and staff meetings, in-service training sessions and work-related social functions, all of which are important to career maintenance and advancement (Laroche, Garcia & Barrette, 2000).

In a study of deaf managers regarding their communication at work, Foster and MacLeod (2003) established that some of the respondents questioned themselves regarding whether their restrictions were born of their self-imposed attitude, or whether these were a question of the environment in which they found themselves. Once again this leads to the question of the role inner resources play in the successful functioning of deaf people in any environment.

### **2.3 HEARING-IMPAIRMENT AND SALUTOGENIC FACTORS**

From the previous section, it is clear that no matter what their skill and qualification level, deaf individuals must possess very strong inner resources to be able to function productively in the work environment. Salutogenic factors therefore play a

significant role in their daily functionality, since concentration on hearing-impairment as a pathology or a deficiency can be self-defeating (Moore, 1998).

Very few studies have focused on people with disabilities as the focus population of resilience studies (Rogers, Muir & Evenson, 2003) This being said, there are studies that have indicated that a loss or limitation, such as hearing impairment (even though not an intrinsically positive event), can be “...a *profound means for showcasing human strengths and potential.*” (Miller & Harvey, 2001). Antonovsky (1987) himself states that:

*“The consequences of stressors, such as a disability, should not be seen as always pathological, but as quite possibly salutary, contingent on the character of the stressor and the successful resolution of tension.”*

Therefore, psychological growth is very often associated with adaptation to major loss (Miller & Harvey, 2001). This could be construed as demonstrating the opposite of what was discussed in the previous paragraph, namely that people who have been obliged to deal with the difficulties of living with a disability enjoy an advantage in that they have overcome many psychological barriers and therefore are more able to cope with the “normal” stressors of the workplace than their colleagues without any disabilities.

Their resilience is therefore “tested” from the point of view that this disability could influence their adaptation in the workplace and that certain dispositional factors influence how well they adjust in their place of work. Miller and Harvey (1998) contend that studying the accounts of those who have experienced major loss can serve as a lens for the better understanding of positive psychology. Because of the extra “burden” that deaf people carry owing to their hearing-impairment, it goes without saying that they need extra resources in order to function on a par with their non-disabled, hearing colleagues in mainstream organisations.

Wang and Heartel (1995, p. 162) perceive a physical condition, such as being deaf, blind or paralysed, as a factor that makes an individual vulnerable or places them at risk psychologically, but do not view it as a stressor or adversity. They continue:

*“A vulnerability is typically an attribute of an individual that makes them more susceptible to a particular threat, such as risk of academic failure. Risk factors are characteristic of a group of individuals that have been associated with undesirable outcomes.”*

From this we can deduce that it is not only the disability itself that creates the problem, but also the accompanying perceptions and stereotypical thinking of both the deaf individual and the hearing people with whom he/she comes into contact. The latter's perception of the deaf person can have a major impact on how other people manage their hearing-impairment. In some cases hearing-impairment presents an obstacle to be overcome in a variety of ways (such as gaining a different identity and culture), while in other instances, the loss can pose a major problem that leaves the deaf person isolated and unable to communicate.

In a literature review, Jacelon (1997) mentions one of the personal characteristics that could assist successful adjustment in stressful circumstances as being “a well-developed sense of meaning or of life” that guides him/her. Kaland and Salvatore (2002) discovered that hearing loss in adults was reported to result in anger, denial, isolation, social withdrawal, fatigue and depression. McKenna (1993) investigated research, arriving at the figure of 19-27 percent as the proportion of people with acquired hearing-loss suffering from a form of psychopathology (while that in the general population was at 5 percent). Even so, adults with early-onset hearing loss often report that, while there were negative aspects of this loss, they have come to incorporate it into their personalities and identity and have developed means of coping (Kaland & Salvatore, 2002). Therefore, part of the psychological perception a deaf or hard-of-hearing person has of him/herself may influence whether they see their disability as a hindrance or an opportunity that could be utilised positively, and therefore may influence what an individual does with his/her life. This brings to mind Antonovsky's (1987) SOC, one of the constructs to be assessed in the present study.

Many deaf individuals struggle to find a balance in coping in a hearing work environment: there is always the internal conflict of understanding whether they are restricting themselves through their self-imposed attitude, or whether their difficulty

stems from the environment in which they find themselves (Foster & MacLeod, 2003). According to Jankowski (1997), deaf people need to choose to be part of the mainstream and to integrate within the larger society. Therefore, opportunities for them do exist, but only for those who adapt to the society that they enter (Jankowski, 1997). This fits well with what we know of Bandura's (1997) SE construct, as described earlier in this chapter.

In a study of deaf and hearing females, the former were more likely to report education as a factor influencing the enhancement of self-esteem and to cite language and communication as a critical component in building their self-esteem (Holte & Dinis, 2001). One of the consequences of being viewed as an inferior human being, for whatever reason, is the effect on the development of self esteem (Holte & Dinis, 2001). In turn, low self-esteem can adversely affect the self-perception of an individual and impede the ability to cope with life's difficulties and disappointments (Branden as cited in Holte & Dinis, 2001). According to Goleman (1995) the perception a person has of him/herself and the knowledge possessed regarding his/her own strength and ability also assist in combating failure in stressful situations; if they have developed a positive sense of self and believe that they possess control over what happens to them, they will better succeed in the face of adversity (Rogers, Muir & Evenson, 2003). This could be linked to a strong internal LOC.

However, according to research, individuals belonging to a minority or stigmatised group tend to be more external in their LOC and Phares (1976) ascribes this to two possible factors: firstly, the direct teaching of parents, peers or older siblings who influence and serve to reinforce external control beliefs and the punishment of verbalised internal LOC beliefs while, secondly, the reality they face could reinforce their beliefs regarding an external LOC because the members of a minority ethnic or stigmatised group quickly realise that they are restricted in terms of jobs, promotions and housing. Therefore a higher external LOC may also be present in deaf communities since they are a minority and stigmatised group.

According to Connor (1995), LOC is also inextricably linked to personality and culture in the sense that different types of societies maintain different expectations or

values concerning the expression of internality or externality. Therefore there may be differences from the mainstream in groups that embrace and function more within deaf culture than in hearing environments.

LOC also plays a role in the adaptation of deaf people. Aspects that have been shown to assist deaf people in reaching success included the desire to overcome challenges, a motivation to achieve, a sense of humour, the ability to advocate and set goals for themselves and learning to read and write (Luckner & Stewart, 2003). One of the strongest themes that emerged from this study of successful deaf individuals includes the importance of intrinsic motivation/self-determination (Luckner & Stewart, 2003). A study carried out by Holte and Dinis (2001) indicated that language, communication and education provide deaf women with a shift in their LOC. Most deaf women in the study had been in educational settings where they had experienced limited access to information: orally schooled or mainstreamed with hearing students, without access to an interpreter (Holte & Dinis, 2001). A change from this setting, such as a transfer to a school for the deaf, entering a college where interpreters were provided, or entering Gallaudet University, with both interpreters and access to staff and students who also signed, brought about an improvement in their respective educational experiences (Holte & Dinis, 2001). The lines of communication opened the way for them to fully participate in their own lives and allowed them to take control of their own futures (Holte & Dinis, 2001). However, other studies have demonstrated that the satisfaction and performance of deaf people who receive assistance, such as cochlear implants, vary widely and are very dependent on, amongst other issues, psychological factors such as the optimism of the individual, their expectations and their type of support system (Kaland & Salvatore, 2002). The manner in which an individual responds to stressful situations, illness and physical stress in general will predict, to a certain extent, how that individual responds to an implant (Kaland & Salvatore, 2002). However, McKenna (1993) mentions that most studies have indicated a very low correlation between the severity of hearing loss and the extent of the psychological disturbance of an individual.

It makes sense that external factors greatly influence the development of any person's psychological strength. According to Twersky-Glasner (2005) factors to consider in the psychological assessment of deaf people include:

- Language preference and use
- Degree of hearing loss
- Age of onset
- Aetiology and additional disabilities that affect learning
- Ethnicity and home language
- Parental and other family hearing status
- Cognitive abilities
- Early identification intervention of the person's hearing-impairment
- Education background
- School placement history.

Therefore, most of these aspects were also taken into consideration in the analysis of the data collected, as will be described in the following chapters.

## **2.4 INTEGRATION OF PSYCHOLOGICAL STRENGTHS WITH DISABILITY AND HEARING-IMPAIRMENT**

There will never be a society where individuals are immune from loss and trauma or psychological and emotional consequences (Miller & Harvey, 2001). Therefore we can assume that these strengths are needed in the workplace, where people are challenged and stretched on a daily basis. The advances taking place in industrial psychology and its many facets such as organisational development, organisational well-being, personnel psychology and employee assistance programmes demonstrate that people experience difficulties in their daily functioning at work. Large corporate organisations have begun to implement preventative programmes such as resilience building and detailed induction and training programmes, aimed at developing employees in order to cope with stressful factors that might affect their productivity. Usually the people who work in large organisations and can afford such interventions receive the development, training and support to do their jobs properly and thereby have received preparation for the workplace and its culture. Even so, the realities of burn-out, under-performance and demotivated and disillusioned

employees are rife in these environments. People in the work environment have different and individual difficulties to deal with, such as balancing family and work responsibilities and coping with the daily stress of managing their workload. This is even truer when thorough investigation into different sub-groups is conducted, such as those that include people with disabilities, where such individuals are faced with isolation on a daily basis while moving and functioning in a world full of people who cannot necessarily understand them. The fact that people without any disabilities enjoy the benefit of all their senses and abilities is a major support in itself; this is not recognised as an advantage, but rather seen as a necessity and taken for granted. People with disabilities have even more to contend with, since they must function productively and effectively without the support of one or more of their necessary senses and abilities. Therefore deaf and hard-of-hearing individuals must, on a daily basis, compensate for what they lack in their ability to communicate with the majority of their colleagues and must learn to deal positively with the frustrations of being hearing-impaired (Lysons, 1996).

In contrast, Luckner and Stewart (2003) have also established that the skills associated with successful deaf persons in the employment setting are humour, creativity and flexibility. Therefore, with the necessary inner and outer resources, it should be possible for such individuals to succeed in equalling their hearing counterparts in functionality and work satisfaction.

The benefit of focusing on a strengths perspective with regards to hearing-impairment as a disability is that it offers society the opportunity to celebrate, nurture and emphasise differences that can be utilised in a positive way, instead of focussing on dysfunction and deficiencies (Luckner & Stewart, 2003).

## **2.5 SUMMARY**

In this chapter, the focus was placed on the salutogenic paradigm and the three psychological strengths, namely SOC, LOC and SE were described. Further, the concepts of disability and hearing-impairment were defined and reviewed according to the literature. The links between the three psychological strengths and hearing-impairment were discussed and the scene set for a consideration of the findings of the present study. In the next chapter we will be taking a closer look at the

exploratory part of the study, in which the research methodology and the findings of the study will be discussed.

## **CHAPTER 3 RESEARCH DESIGN AND METHODOLOGY**

The aim of this chapter is to present the methodological information that relates to the current study. The hypotheses formulated for the said study will be outlined. Next, the population of the study will be described, where after the sample and the problems experienced will be discussed. Explanations with regards to the measuring instruments utilised in the study are provided, after which the data collection and statistical analysis methods will be commented on. The chapter ends with a summary.

### **3.1 FORMULATION OF HYPOTHESES**

The hypotheses for this research study are:

1. As a group, the hearing-impaired individuals will evidence a healthy salutogenic functionality. This will be demonstrated by:
  - an average to above-average mean score as per the interpretation of the Locus of Control Inventory, indicating healthy salutogenic functionality in terms of LOC. This will be made up of lower scores on the External Control sub-scale and higher scores on the Internal Control and Autonomy sub-scales;
  - an average to above-average mean score as per interpretation of the Orientation to Life Questionnaire, indicating healthy salutogenic functionality in terms of SOC. This will be made up of higher scores on all the subscales (manageability, comprehensibility and meaningfulness);
  - an average to above-average score as per interpretation of the Self-Efficacy Scale, indicating healthy salutogenic functionality in terms of SE.
  
2. There will be no significant differences in sub-groups among the hearing-impaired individuals. This will be indicated by:
  - no differences being found in salutogenic functionality with relation to gender;
  - there being no difference in salutogenic functionality across deafness categories;
  - there being no difference in salutogenic functionality owing to the onset of deafness;

- there being no difference between the salutogenic functionality of employed and unemployed individuals;
- there being no difference in salutogenic functionality between respondents who were exposed to hearing education during primary and high school and those who attended schools for the deaf;
- there being no difference in salutogenic functionality between individuals with post-school qualifications and those with matric qualifications or lower;
- there being no difference in salutogenic functionality between individuals with hearing parents and those with hearing-impaired parents;
- there being no difference in salutogenic functionality between individuals with hearing spouses and those with hearing-impaired spouses.

These hypotheses will be evaluated according to the results of the study.

## **3.2 STUDY POPULATION AND SAMPLE**

In this section, the study population is discussed. Characteristics of the population, the sampling method and characteristics of the sample are described.

### **3.2.1 Characteristics of the Study Population**

Hearing-impaired individuals comprise a sizable portion of the South African population. Therefore, it is important to understand more about this sub-population and about how to ensure their equal rights and appropriate opportunities for optimal living. The total population of deaf and hard-of-hearing persons was 4 028 464 in South Africa in 1994 (Mthembu, 1994). The profoundly deaf constituted 402 847 of these individuals (1%), and severely hard-of-hearing persons, 3% at 208 539 individuals. Hard-of-hearing individuals constituted 6% of the total South African population (Central Statistical Services, as cited in Mthembu, 1994). In 1998 there were at least four million deaf and hard-of-hearing people in South Africa. According to Statistics South Africa (2005), approximately 20,1 percent of all disabled people in South Africa live with a hearing impairment (19,4% of males and 20,7% of females), amounting to approximately 453 104 persons nationally.

### **3.2.2 Issues Regarding the Written Format of the Questionnaire**

The study population for the present study included individuals with a hearing impairment, located within the boundaries of South Africa, who are of working age (18 years or older). However, within this population there are many sub-groups that can be differentiated, such as type of hearing impairment, onset of hearing impairment and whether the hearing-impaired individual has chosen to be part of the deaf culture or not (see Section 2.2 in this regard). These aspects exert an influence on the hearing-impaired individuals' levels of education, literacy, ability to read and communicate in languages other than Sign Language and their ability to process abstract concepts and information (see chapter 2). This is also important with regards to the influence of these aspects on such an individual's ability to communicate with people without any hearing impairment and to complete written questionnaires. According to Dr C. Storbeck (personal communication, 10 June 2007), utilising the format of written questionnaires dramatically diminished the possible sample to be drawn from the population and included mostly those hearing-impaired individuals who are able to read and write, owing to the inability of most such individuals to communicate in written language without an interpreter or other support person. However, the researcher did not monitor the use of supporters and interpreters and therefore some deaf individuals may have completed the questionnaire with the assistance of a hearing person or interpreter. This is important since it could influence the reliability of the results because of interpreter bias, which is of further importance, since this influenced the number of usable questionnaires collected and also limited the number of respondents who participated in the study.

### **3.2.3 Sampling**

#### *3.2.3.1 Design*

In this study, an availability sampling strategy was employed to compose the sample, also known as convenience sampling (McBurney, 1994). Availability sampling is a non-random sampling procedure utilised for practical reasons such as selecting respondents who are readily available to participate in a study. The reason for using this sampling method was that hearing-impaired individuals are difficult to reach and communicate with, and that not all of them are able to complete the questionnaire in

its current written format. Owing to the format of the questionnaire, individuals would need to be literate and be able to read and write either Afrikaans or English. This fact already limited the scope of the present study to only those hearing-impaired individuals who are able to read and write in these two languages and meant that most of the deaf community would automatically be omitted owing to an inability to communicate in this way (Dr C. Storbeck, personal communication, 10 June 2007).

The disadvantages of using availability sampling are as follows:

- the sampling was not stratified across the population and therefore it cannot be assumed that a representative sample of hearing-impaired individuals has been included in the study.
- a normal distribution can therefore not be assumed for statistical analysis purposes, which necessitates the use of non-parametric statistical methods.

The findings in this study can therefore not be generalised to the hearing-impaired population as a whole. Results would therefore only be applicable to the sample utilised in this study. However, this does not diminish the value of the study, since the information gathered from the remaining respondents could prove to be useful for further knowledge regarding the functionality of hearing-impaired individuals and might open the doors for further investigation.

### *3.2.3.2 Data Collection Methodology and Problems*

In total, approximately 303 hearing-impaired individuals and nine organisations were approached to participate in the present study. The names of the potential participants were collected via referrals from individuals and organisations that were in contact with such individuals, such as corporate organisations, government departments that employed disabled individuals, not-for-profit organisations that existed to further the rights of hearing-impaired individuals and educational institutions that specialised in hearing-impaired education. The individuals were contacted either in person, by post, short message sending, electronic mail or a combination of these methods. Table 1 below indicates the approximate numbers with regards to these contacts.

**Table 1**  
*Contact Made with Potential Respondents*

Step in process	Fax	Email	SMS	Per Post	In person	<b>Total</b>
<i>First contact</i>	0	83	170	0	50	<b>303</b>
<i>1st follow up</i>	0	68	69	0	25	<b>162</b>
<i>2nd follow up</i>	0	33	20	0	5	<b>58</b>
<i>3rd follow up</i>	0	16	10	0	3	<b>29</b>
<i>Questionnaires out</i>	6	41	0	15	45	<b>107</b>
<i>Questionnaires received</i>	4	21	0	4	34	<b>63</b>
<i>Acknowledgement sent</i>	0	21	13	0	20	<b>54</b>
<b>Total</b>	<b>6</b>	<b>283</b>	<b>282</b>	<b>19</b>	<b>182</b>	

The process involved making initial contact with the respondent, asking whether they would like to participate in research relating to deaf and hard-of-hearing individuals. In most cases back-and-forth communication was conducted before voluntary consent was given by the potential respondent. If consent was given, an email address, fax or postal address was requested in order to send the questionnaire in the preferred language (Afrikaans or English). The questionnaire would be forwarded to the candidate, and, where necessary, a follow-up would be conducted regarding progress. The respondents were to complete the questionnaire which would then be returned to the current researcher by the respondents via their chosen method. In most cases, however, the respondents failed to respond to the questionnaire and never returned it. In two cases respondents communicated that they could not fill in the questionnaire. The others never responded to follow-up requests.

Organisations were contacted by telephone and introductions made. If possible, a preliminary meeting would be set up with the person responsible for managing aspects relating to disability in the organisation. A copy of the questionnaire would be furnished, as well as any other documentation requested by the organisation. In two cases, the managers responsible for disability issues in the organisation were willing to set up group administration sessions with the hearing-impaired employees who were available. The questionnaires were then administered and collected by hand. One organisation proved to be unreachable, while another felt that the confidentiality of its business would be compromised if it authorised such a study in its ranks. Two other organisations pledged their support, but were unable to assist

with respondents within the given time frames. Three other organisations allowed the researcher access to their hearing-impaired individuals, but contact had to be made on an individual basis while the organisation was not directly involved.

In the end, only 20% of the people originally contacted returned usable questionnaires.

#### **3.2.4 Characteristics of the Sample**

A total of 63 individuals are included in the sample. Details of the sample group are provided in Chapter 4 of this study.

### **3.3 THE MEASURING INSTRUMENTS**

In this study a biographical section and three salutogenic instruments were utilised. Experts in the field of hearing impairment were interviewed in order to obtain information on the applicable biographical information regarding the functionality of hearing-impaired individuals. A deaf individual was also requested to go through the final questionnaire and to provide feedback regarding its usability for deaf respondents. The biographical information obtained included: age, gender, main home language, deaf category, onset of hearing loss, hearing status of parents and spouses, qualification, type of primary and secondary schools attended, employment status, main work language, size of organisation, mediums of communication used at work, job tenure, number of jobs held during employment years and periods of unemployment. These variables would assist the researcher to gain more detailed information regarding the sample group, owing to the immense diversity found in the deaf population and its bearing on the interpretation of the results. The questionnaire is available in Appendix A.

Each of the measuring instruments will be described according to the rationale for its development and inclusion in the study, what it measures, how it is administered, how to interpret the results and how reliable and valid each instrument is. Each subsection will conclude with a motivation regarding why this instrument was included in this study.

### **3.3.1 The Self-efficacy Questionnaire (SEQ)**

#### *3.3.1.1 Development and Rationale*

Tipton and Worthington (1984) developed the SEQ in order to gauge people's expectations with respect to their own competency to perform a wide range of challenging activities which require effort and perseverance. The rationale behind its development is that most SE studies up to that time had focused on the magnitude and strength of SE in individuals, but that more research needed to be carried out in order to measure general SE, which indicates the relative degree of specificity or pervasiveness of expected mastery in performance (Tipton & Worthington, 1984).

#### *3.3.1.2 Description*

The instrument is a self-report questionnaire that consists of 27 items (Tipton & Worthington, 1984), which is available and has been used in both English and Afrikaans (Naude, 2004). Choices are indicated on a seven-point Likert-scale. One and seven represent the extreme values on the scale in terms of agreement or disagreement with the given statement, while a rating of four on the scale would indicate that the individual neither agrees nor disagrees with the statement. There are no sub-scales in the questionnaire.

#### *3.3.1.3 Administration*

Respondents chose between the English and Afrikaans version of the questionnaire. The SEQ allows the respondents to read the instructions themselves. Respondents answer the 27 items by indicating which point on the scale best describes their level of agreement with the statement. The SEQ can be administered on either a group or individual basis with no time limit linked to it. The instrument is scored by adding the item scores. Nine of the items are inversely scored. These items are 1, 2, 9, 10, 11, 12, 22, 25 and 26 (Breed, Cilliers & Visser, 2006).

#### *3.3.1.4 Interpretation*

When interpreting the instrument, the sum of all the items is utilised in order to gain a total score for SE. In this instrument a low score (minimum of 27) would indicate a high degree of SE while a high score (maximum of 189) would indicate a low degree of SE.

According to Bandura (1982), an individual will set higher goals for him/herself and be more committed to reaching the goals if the perception of the person's own SE is high. He adds that a strong sense of personal efficacy is needed to achieve goals and demonstrate positive wellbeing. Individuals who possess a strong sense of SE will focus on completing a given task and would be likely to thrive on challenge and difficulties, while people with low SE would most likely be consumed by their inadequacies and experience very little energy to deal with the task at hand (Bandura as cited in Ganyane, 2005).

#### *3.3.1.5 Reliability and Validity*

Tipton and Worthington (1984) investigated the construct validity for this instrument. They concluded that the instrument is useful, although it could still be refined. In a study by Stanley, Novy, Hopko, Beck, Averill and Swann (2002), the instrument demonstrated adequate internal consistency and exploratory factor analysis supported the potential utility of the instrument. Significant correlation was also found between this instrument and the Program Efficacy Scale (PES) utilised by Vincent and Houlihan (2006).

In terms of the reliability of the instrument Lennings (1994) found the reliability of this scale to be high. Kossuth (1998) identified a Cronbach-alpha coefficient of 0,71 and 0,86 for the instrument. In a study by Lightsey, Burke, Ervin, Henderson and Yee (2006) the 10-item version of the Scale consisting of items from the 27-item version with the highest discrimination showed Coefficient-alpha scores of 0,75 and 0,82. Breed, Cilliers and Visser (2006) established the internal consistency reliability of the SE scale as acceptable. In their study, the Cronbach-alpha coefficient varied between 0,86 and 0,87 for different race groups in South Africa. During factor analysis, they also found SE to load onto a single factor, giving further evidence that the instrument was psychometrically fit for use (Breed, Cilliers & Visser, 2006).

#### *3.3.1.6 Motivation for Inclusion*

The SE scale was chosen because it measures generalised SE as a central component of salutogenesis. The instrument measures perceptions of how well one can execute the courses of action required to deal with certain situations (Ganyane, 2005).

### 3.3.2 The Orientation to Life Questionnaire (OLQ)

#### 3.3.2.1 *Development and Rationale*

Antonovsky (1987) developed the OLQ in order to gauge individuals' perceptions of their own SOC. As previously described, SOC expresses the extent to which one possesses a pervasive, enduring though dynamic feeling of confidence that one's internal and external environments are structured, predictable and explicable, that the resources are available to meet demands posed by different stimuli and that the demands are worthy to invest and engage in (Antonovsky, 1987). The idea behind the questionnaire is to measure an individual's personality disposition and orientation with regards to stimuli on three levels, namely comprehensibility, manageability and meaningfulness (Ganyane, 2005).

#### 3.3.2.2 *Description*

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

- **Comprehensibility (11 items).** This scale measures the extent to which the world is viewed as ordered, predictable and as being clearly observable. The items that represent this scale are 1, 3, 5, 10, 12, 15, 17, 19, 21, 24 and 26.
- **Manageability (10 items).** This scale measures the extent to which people view experiences in their lives as being manageable and consists of items 2, 6, 9, 13, 18, 20, 23, 25, 27 and 29.
- **Meaningfulness (8 items).** This measures the extent to which life is viewed as being meaningful and is indicated by items 4, 7, 8, 11, 14, 16, 22 and 28.

#### 3.3.2.3 *Administration*

Respondents could choose between an English and Afrikaans version of the questionnaire as utilised by Naude (2004). The OLQ allows the respondents to read the instructions themselves. Respondents answer the 29 items by indicating which point on the scale describes them best. The OLQ can be administered on either a group or an individual basis with no time limit linked to it (Antonovsky, 1987). The

instrument is scored by adding the item scores of each subscale separately so as to arrive at a score for each subscale. The total score for the OLQ is the sum of the three subscale scores. Thirteen of the items are inversely scored. These are items 1, 4, 5, 6, 7, 11, 13, 14, 16, 20, 23, 25 and 27 (Antonovsky, 1987).

#### 3.3.2.4 Interpretation

There are no specific guidelines for the interpretation of the scores achieved by respondents. The minimum and maximum values that can be obtained for the various scales can be used as a general framework for the interpretation of scores. The total score of the three subscales of the OLQ provides a global indication of the respondent's SOC. The average score on the OLQ normally fluctuates between 120 and 150 (Antonovsky, 1987). The subscales could also be interpreted individually. A low score on one subscale indicates that the trait is present to a lesser extent, whereas a higher score is indicative of the presence of the trait to a greater extent (Antonovsky, 1987). Therefore an individual with a strong SOC will arrive at a significantly higher score than an individual with a weaker SOC. Those individuals with lower scores will in all probability perceive stressful situations as threatening, which could provoke an anxiety reaction (Antonovsky, 1987). The minimum and maximum scores that can be obtained on the scale and its subscales are furnished in Table 2.

Variable	Minimum value	Maximum Value
<i>Sense of Coherence (SOCtot)</i>	29	203
<i>Comprehensibility (SOCcom)</i>	11	77
<i>Manageability (SOCman)</i>	10	70
<i>Meaningfulness (SOCmean)</i>	8	56

### *3.3.2.5 Reliability and Validity*

Antonovsky (1987) reported internal consistency and reliability coefficients ranging between 0,84 and 0,93. Kalimo and Vuori (1990) arrived at a reliability coefficient of 0,93 for adults (N=706) between the ages of 31 and 44 years. Antonovsky (1993) summarised the reliability and validity results available at that time in the various studies and indicated that the average alpha coefficient in 29 research studies ranged between 0,91 and 0,85. Antonovsky (1993) also reported consistent high internal reliability in a variety of populations in different culture and language groups in the Western world. The test-retest reliability produced coefficients ranging between 0,41 and 0,97. Antonovsky (1993) concludes that the OLQ is a reliable measuring instrument for SOC.

In the South African context the reliability of the OLQ was confirmed by Strümpfer and Wissing (1998) and Coetzee and Rothmann (1999). The latter found Cronbach alpha coefficients of 0,89 for the total score of the OLQ in a study on the job satisfaction of managers in the dairy industry. In accordance with these findings Naude and Rothmann (2000) and Pretorius and Rothmann (2001) reported alpha coefficients of 0,88 and 0,93 respectively for the OLQ.

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

### *3.3.2.6 Motivation for Inclusion*

The OLQ best supports the operational view of the concept of SOC and it has been shown to have satisfactory reliability and validity coefficients. Antonovsky (1993) stated that the questionnaire could be applied across cultural boundaries. South African studies (Naude & Rothmann, 2000; Pretorius & Rothmann, 2001) confirm that the questionnaire can also be employed across cultural boundaries in a South African context. The sample used in the present study includes respondents from different cultural backgrounds, both from a race and hearing-impairment point of

view; therefore the OLQ could be utilised for the said study. The instrument has also been empirically verified worldwide in a variety of settings (Ganyane, 2005).

### **3.3.3 Locus of Control Inventory (LCI)**

The LCI, as developed by Schepers (1995), was used to measure LOC and its three sub-categories in the current study.

#### *3.3.3.1 Development and Rationale*

Since Rotter (1966) introduced the concept of LOC, several scales have been developed to measure the concept. One of these is the Rotter I-E Scale. According to Schepers (1995) this scale displays shortcomings from a psychometric point of view, namely that the ipsative nature of the questionnaire does not allow for inter-individual differences and consequent comparisons. Based on these reasons, Schepers (1995) developed the new normative questionnaire appropriate for South African conditions, which he termed the LCI.

#### *3.3.3.2 Description*

The LCI consists of 88 items and choices are indicated on a seven point scale. Choices at the ends of the scale indicate total agreement or disagreement with the statement made in the item, whereas a score of 4 indicates that both statements are of equal importance to the respondent.

The LCI is divided into three subscales (Schepers, 1995):

- **Internal locus of control (28 items).** This scale determines whether respondents ascribe performance to causes under their own control (because of their own ability, behaviour or personal characteristics).
- **External locus of control (26 items).** This scale determines the extent to which respondents attribute performance to causes outside their control (such as luck, fate, circumstances or powerful others).
- **Autonomy (34 items).** This scale determines whether respondents are able to believe in their own abilities, act independently and with confidence, and to make decisions and take active steps that lead to the solution of the problem.

The LCI was not available in an Afrikaans version. It was translated by the researcher and given to three other bilingual individuals to translate back into English. The results were compared to the original English version to ensure that understanding and language were consistent. This methodology, called back-translation, is the process of translating a document that has already been translated into a foreign language back to the original language - preferably by an independent translator. It improves the reliability and validity of research in different languages by requiring that the quality of a translation is verified by an independent translator translating back into the original language. This approach is a commonly used method to check the accuracy of translation in social science research (Douglas & Craig, 2007).

#### *3.3.3.3 Administration*

The LCI can be group or individually administered. It allows the respondents to read the instructions themselves and then to answer the items by indicating the degree to which the statement in each item influences their behaviour. The choices range from “does not agree at all” (1) to “agrees completely” (7).

#### *3.3.3.4 Interpretation*

When scoring the inventory, the following steps should be taken. Items number 1, 11, 15, 21, 39, 71 and 73 are negatively stated and should be reversed before scoring the inventory.

The three sub-scales can be scored as follows:

- The score on Internal Control is determined by the sum of the values of items numbered 6, 7, 8, 10, 18, 19, 26, 27, 31, 32, 33, 37, 40, 42, 48, 49, 54, 55, 59, 60, 61, 63, 69, 75, 76, 85, 86 and 87.
- The score on External Control is determined by the sum of the values of items numbered 4, 9, 12, 20, 34, 35, 36, 38, 41, 43, 45, 47, 50, 51, 52, 53, 56, 57, 58, 65, 72, 77, 79, 80, 84 and 88.
- The score on Autonomy is determined by summing the values of items numbered 1, 2, 3, 5, 11, 13, 14, 15, 16, 17, 21, 22, 23, 24, 25, 28, 29, 30, 39, 44, 46, 62, 64, 66, 67, 68, 70, 71, 73, 74, 78, 81, 82 and 83.

However, the interpretation of the three subscales should be carried out together and not independently.

The minimum and maximum values of the subscales are recorded in Table3.

Variable	Minimum value	Maximum Value
<i>Autonomy (LOCa)</i>	34	238
<i>Internal Control (LOCic)</i>	28	196
<i>External Control (LOCec)</i>	26	182

Therefore, individuals with high scores on Internal Control and Autonomy and low scores on External Control can be viewed as healthy, well-adapted people who could be expected to handle the demands of life well and to perform well. The opposite is true for individuals with low scores on Internal Control and Autonomy and high scores on External Control. These individuals may be prone to blame external factors and the environment for problems and poor performance (Coetzee, 2003).

### 3.3.3.5 *Reliability and Validity*

Research by Schepers (1995) established the internal consistency of the scales of the LCI, with Cronbach alpha coefficients of 0,82 for Internal Control, 0,87 for External Control and 0,88 for autonomy. These findings have since been confirmed by other South African studies such as that of Rothmann and Agathagelou (2000), which obtained coefficients of 0,77 (Internal Control), 0,81 (External Control) and 0,72 (Autonomy); Naude and Rothmann (2000), who obtained coefficients of 0,81 (Internal Control), 0,88 (External Control) and 0,87 (Autonomy); and Pretorius and Rothmann (2001) with coefficients of between 0,72 and 0,90. All these coefficients are above the acceptable level of 0,70 as recommended by Nunnally and Bernstein (1994). The construct validity of the LCI is supported by significant correlations with the Sixteen Personality Factor Questionnaire, the Jung Personality Questionnaire,

the Personal Survey of Study Habits and Attitudes, Career Development Questionnaire and the Nineteen Field Interest Inventory (Schepers, 1995).

The criterion validity of the LCI has been indicated by correlates with a composite criterion of job success of  $r = 0,62$  (Schepers, 1995). The inter-correlations between the subscales reflect the fact that the Internal and External scales (with a correlation of  $-0,17$ ) are not two opposites of the same continuum, but are independent constructs that must be viewed separately (Schepers, 1995). These findings have been confirmed by Rothmann and Agathagelou (2000) who obtained a correlation of  $0,10$ . According to Schepers (1995) both these scales contribute to the measurement and understanding of LOC.

#### *3.3.3.6 Motivation for Inclusion*

According to Schepers (1995) the LCI determines to which extent the different factors and situations mentioned in the items influence the evaluation and decision-making of the respondent. Furthermore, it has been empirically established that the LCI is suitable for use in South African conditions.

### **3.4 DATA COLLECTION PROCEDURE**

#### **3.4.1 Compilation of Questionnaires**

The three measuring instruments were combined into one document together with the biographical questionnaire. A covering letter was drafted which introduced the participants to the aim and nature of the research study, and instructions were included for completing and returning the questionnaires to the researcher. The questionnaire consisted of 165 items, which included 21 biographical items, 27 items from the Self-Efficacy Scale, 29 items from the Orientation to Life Questionnaire and 88 items from the Locus of Control Inventory. In total, the whole document consisted of 22 pages. Both the Afrikaans and an English version were made available.

#### **3.4.2 The Administration of the Measuring Instruments**

Potential respondents were identified as indicated in Section 3.2. In the two instances where organisations agreed to provide access to their hearing-impaired employees for group administrations, group sessions were convened in which the participants could voluntarily complete the questionnaires. There were 22 potential

respondents that participated in the group sessions, of which 20 returned completed questionnaires.

A cover letter clarified the purpose of the study and potential participants were given the researcher's name and contact details to allow an opportunity for questions and further clarification. It was stated in the covering letter that participation was voluntary, and that by completing and returning the questionnaires to the researcher, the participants were consenting to the information being used for the purposes of the study. Confidentiality clauses were included, stating that no names would be published. These aspects are in accordance with the Health Professions Act (No. 56, 1974) that states that vulnerable populations must be protected from harm and exploitation, and should not be victimised, harassed or coerced to participate in assessment procedures. It further supports ethical considerations that state that appropriate explanation should be provided, the clients' consent should be gained and that all reasonable steps should be taken to protect the individual's rights and welfare.

A request was also made for participants to inform the researcher of any other individuals who would qualify to participate in the study. The researcher developed a database containing all these names including their contact details and referred to this in order to contact more potential participants. Approximately 303 hearing-impaired individuals were contacted for participation in this study.

Once questionnaires were received from the participants, the biographical data was coded and captured together with the responses to the three measuring instruments.

### **3.5 STATISTICAL PROCEDURE AND ANALYSIS**

Statistics is the method of using a set of mathematical techniques to allow the researcher to make statements concerning the specific sample and population by employing principled statistical argument (Durrheim, 1999). Since the sample includes less than 100 participants (N=63) in the present study, use will be made of non-parametric statistical methods (Sprent & Smeeton, 2001). Non-parametric statistical tests refer to tests that do not rely on parameter estimation or precise distributional assumptions (Howell, 1995). These methods are used when a normal

distribution and random sampling cannot be assumed and where there is insufficient data to generalise to a population (Sprenst & Smeeton, 2001), which is also true of the current study.

In the following section the statistical procedures used to analyse the quantitative data in this study will be described.

### **3.5.1 Descriptive Statistics**

Descriptive statistics are results that simply report or describe a specific set of data (Howell, 1995). Such statistics include data from a sample and are utilised to organise, summarise and describe the data (Howell, 1999).

### **3.5.2 Mann-Whitney Test**

The Mann-Whitney test is the non-parametric version of the T-test and is used to determine the significant differences between two groups (Howell, 1995). This test was used in the present study to determine gender and employment status differences in terms of the three different salutogenic constructs.

### **3.5.3 Kruskal-Wallis One-way Analysis of Variance**

This method is used when the research hypothesis incorporates more than two population means and tests differences among the specified sample means (Williams, 1992). It is the non-parametric version of the ANOVA analysis of variance (Howell, 1995). The reason for the inclusion of this technique is to establish the difference between specific biographical variables where more than two groups are compared, such as the hearing-impairment category and the age of hearing-impaired individuals in this study. In cases where significant findings are discovered, Mann-Whitney tests will be done between as many pairs of aspects that the combination allows, to further determine where the significant result lies and to facilitate the process of establishing its effect size (Field, 2000), which will be discussed below.

### **3.5.4 Level of Statistical Significance**

In general, 0,05 and 0,01 levels of statistical significance are employed by researchers (Howell, 1995). In this study both these levels of statistical significance will be utilised, although the 0,05 level of rejection has been seen as too lenient by some (Howell, 1995).

### **3.5.5 Effect Size**

Effect size refers to the magnitude of a result. Due to the fact that data is ranked in non-parametric statistical methods, these tests could tend to be less powerful than parametric tests (Field, 2000), which can influence the ability to detect differences. Therefore, even though the results of a study may be statistically significant, it could be of little practical significance, so the effect size has to be estimated from the samples if the population as a whole cannot be observed (Howell, 1995). For non-parametric measures, Field (2000) makes use of the following levels which is derived from Partial Eta Squared ( $r$ ):

$r = 0,01 - 0,29$  refers to a small effect size;

$r = 0,3 - 0,49$  refers to medium effect size; and,

$r = 0,5$  upwards refers to large effect size.

The effect size of the statistically significant results is reported in the next chapter.

### **3.6 CHAPTER SUMMARY**

In this chapter the hypotheses of the study were proffered and the characteristics of the population and sample were indicated, together with information on sample determination. The measuring instruments, data collection procedure and statistical analysis methods were also discussed. In the next chapter the results of the study are described.

## **CHAPTER 4            RESULTS**

This chapter documents the results of the fieldwork conducted for this study. In addition, a description of the respondents is furnished according to their biographical details as well as the statistical results generated from their responses. The results of the statistics generated for LOC, SOC and SE and subscales where applicable will be briefly described. The inter-group results generated by non-parametric statistical tests are broken down according to gender, age groups, hearing impairment category, onset of hearing impairment, hearing status of parents and spouses, schools attended and qualification level; those results found to be significant are reported. The chapter concludes with a summary.

### **4.1    BIOGRAPHICAL PROFILE OF THE SAMPLE**

As previously indicated in Chapter 3, 63 completed questionnaires were received from the participants. The questionnaires were returned via fax (4 questionnaires), email (21 questionnaires), by post (4 questionnaires) and per hand (34 questionnaires). The characteristics of the respondents are furnished in Table 4.

**Table 4**  
*Biographical Details of the Study Sample*

Variable	N	Percentage of Sample (%)
<i>Gender</i>		
Male	27	42,9
Female	36	57,1
<b>Total</b>	<b>63</b>	<b>100,0</b>
<i>Age</i>		
18-25 years	10	15,9
26-35 years	16	25,4
36-45 years	9	14,3
46-55 years	6	9,5
56-65 years	4	6,3
66 years and older	2	3,2
Not indicated	16	25,4
<b>Total</b>	<b>63</b>	<b>100,0</b>
<i>Deaf Category</i>		
Hard-of-hearing	15	23,8
Prelinguistic deafness	34	54,0
Postlinguistic deafness	13	20,6
Not indicated	1	1,6
<b>Total</b>	<b>63</b>	<b>100,0</b>
<i>Onset of deafness</i>		
Acquired after birth	19	30,2
At birth	35	55,6
Unknown	7	11,1
Not indicated	2	3,2
<b>Total</b>	<b>63</b>	<b>100,0</b>
<i>Hearing status of parents</i>		
Both parents deaf	4	6,3
Both parents hearing	52	82,5
One parent deaf	1	1,6
One parent hard-of-hearing	4	6,3
Not indicated	2	3,2
<b>Total</b>	<b>63</b>	<b>100,0</b>
<i>Hearing status of spouse/partner</i>		
No spouse/partner	18	28,6
Deaf	16	25,4
Hard-of-hearing	6	9,5
Hearing	17	27,0
Not indicated	6	9,5
<b>Total</b>	<b>63</b>	<b>100,0</b>
<i>Highest qualification</i>		
Degree/Post graduate degree	3	4,8
Diploma/technical qualification	7	11,1
Matric	25	39,7
Lower than matric	6	9,5
Not indicated	22	34,9
<b>Total</b>	<b>63</b>	<b>100,0</b>
<i>Employment status</i>		
Employed	51	81,0
Unemployed	12	19,0
<b>Total</b>	<b>63</b>	<b>100,0</b>

From the table it is evident that not all respondents completed all the items of the biographical questionnaire. Where the respondents did not complete a certain section of this questionnaire, these missing values are referred to in the table as the number of respondents who did not indicate a specific category for that section.

The sample group appears to be skewed in terms of distribution in all categories: The distribution of the sample group according to gender indicates only a slight skewing, with females making up 57,1% of the sample and males only 42,9%. This group also indicates that 41,3% fall in the age-group 35 years and younger and 33,3% in the age group 36 years and older.

In terms of the deafness category, the distribution reveals that more than half of the sample group fall in the prelinguistic deafness category, and the distribution in terms of onset of deafness indicates that 55,6% of respondents acquired deafness at birth, with only 30,2% acquiring hearing loss after birth.

Most respondents (82,5%) indicated that they have hearing parents, while of those respondents (61,9%) who reported living with a spouse or partner, more than half (34,9%) indicated that the latter was deaf or hard-of-hearing. Interestingly, even though more than half of the respondents (55,6%) were born deaf, the great majority (82,5%) indicated that they were born to hearing parents.

Only 15,9% of respondents indicated possessing a post-matric qualification, with 49,2% indicating that they had attained a matric or lower qualification. According to literature (Statistics South Africa, 2005), only 2,9% of the disabled population possess a post-matric qualification, while 64,14% have attained matric or lower.

In this sample, 81% of respondents were employed, relative to the 12,7% of the disabled population who reported being employed (Statistics South Africa, 2005). Of the twelve respondents who were unemployed, nine fell in the 35 and younger category and three fell in that of 36 years and older.

## **4.2 HOME AND WORK LANGUAGES**

Participants were asked to indicate the main language used at home and at work. Afrikaans was indicated by 27 participants as their main language at home, while five indicated English as their main home language, one each utilised mainly IsiZulu, SiSwati and Sesotho at home and three participants indicated that they used South African Sign Language (SASL) as their main home language. Multiple languages were used by 25 participants at home.

At work, 26 participants utilised the historically prevalent business languages of Afrikaans or English while one used SASL as the main language at work. Multiple language use at work was indicated by 29 respondents, some of which included SASL. Those able to utilise SASL at work were employed as part of a division where a group of hearing impaired individuals who could communicate with each other in SASL worked together.

## **4.3 RELIABILITY OF THE SALUTOGENIC SCALES**

The reliability statistics of the measuring instruments were not determined for this study owing to the small sample. However, reliability information in terms of the appropriateness of the different instruments was collected, as reported in Chapter 3, and the instruments are viewed as reliable.

## **4.4 DESCRIPTIVE STATISTICS**

In this section, the sample will be described according to the results of the different measuring instruments by biographical variable. For Self-Efficacy, the total score will be reported (SE<sub>tot</sub>). For Sense of Coherence four different scores will be reported, namely the total score (SOC<sub>tot</sub>), Manageability (SOC<sub>man</sub>), Meaningfulness (SOC<sub>mean</sub>) and Comprehensibility (SOC<sub>com</sub>). For Locus of Control three scores will be reported, namely Autonomy (LOC<sub>a</sub>), Internal Control (LOC<sub>ic</sub>) and External Control (LOC<sub>ec</sub>). The total score of Locus of Control (LOC<sub>tot</sub>) is not reported, since one of the External Control sub-scales contains an inverse interpretation of the others and would render the total score nonsensical from a theoretical point of view.

Owing to the small size of the sample, non-parametric statistics will be reported, as described in Chapter 3. Frequency statistics indicated that normal distribution could

not be assumed for any of the constructs (refer to Appendix B). It is also not recommended to utilise multiple analysis of variance procedures with small sample sizes, so numerous single comparisons have been calculated. To reduce the likelihood of chance influences in the interpretation of the data, statistical significance for levels  $p \leq 0,01$ ,  $p \leq 0,05$  and  $p \leq 0,1$  will be utilised. Even though it may seem to allow room for unnecessary measurement errors, Garson (2006) regards the  $p \leq 0,1$  level as an acceptable level when exploratory research is carried out, because a stringent statistical significance level may be detrimental to the nature of exploratory research.

Where two independent samples are compared, the Mann-Whitney (2-tailed) test will be utilised. Where more than two independent samples are compared the Kruskal-Wallis (2-tailed) test will be utilised. In each table the mean rank of each group is reported, as well as the mean rank difference (where appropriate). The significance score and the point probability figures are also given for each salutogenic scale and subscale.

#### **4.4.1 Descriptive Scores for the Hearing Impaired Group**

The results in terms of descriptive statistical totals derived from the participant group are represented in Table 5. This offers an indication of the range, minimum and maximum values, as well as the mean, standard error and standard deviation for each scale in which the participants scored themselves regarding the various aspects.

**Table 5**  
*Overall Results for Hearing Impaired Group*

Variable	N	Range	Minimum	Maximum	Mean	Standard Error	Standard Deviation
<i>Self-efficacy (SEtot)</i>	63	52	52	104	80,08	1,702	13,508
<i>Sense of Coherence (SOCtot)</i>	63	111	81	192	127,83	2,425	19,245
<i>Comprehensibility (SOCcom)</i>	63	46	23	69	43,60	0,967	7,678
<i>Manageability (SOCman)</i>	63	45	22	67	44,11	1,057	8,386
<i>Meaningfulness (SOCmean)</i>	63	43	13	56	40,11	0,950	7,542
<i>Autonomy (LOCa)</i>	63	118	97	215	164,22	3,020	23,971
<i>Internal Control (LOCic)</i>	63	92	99	191	151,05	2,833	22,484
<i>External Control (LOCec)</i>	63	91	64	155	107,32	2,723	21,614

The above results for the hearing-impaired group as a whole will be interpreted according to each salutogenic construct in the following sections.

#### *4.4.1.1 Self-Efficacy (SE)*

The mean score for the sample's SE is 80,08. This falls in the lower average range of the inverse scale, signifying a high-average degree of perceived SE. The minimum and maximum scores also indicate that there were no outlier scores indicating low SE, but that one or more of the individuals indicated a perceived SE score that fell in the lower score range, which points to a higher perceived self-efficacy. This score indicates that the individuals in the sample believe in their ability to cope with challenges successfully.

#### *4.4.1.2 Sense of Coherence (SOC)*

The total of the three subscales gives an indication of the SOC of the sample, with average scores ranging from 120 to 150. Wissing and Van Eeden (1997) found an average score of 136,52 with a standard deviation of 21,68, while Coetzee (2003)

established an average score of 143,11 with a standard deviation of 21,42 for hearing populations. The current study, therefore, supports these findings, reporting an average score of 127,83, with a standard deviation of 19,25 for the hearing-impaired. All the subscale scores fall in the average range.

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

Coetzee (2003) reported LOC statistics where Internal Control (LOCic) was calculated as 150,84, followed by Autonomy (LOCa) at 142,40 and External Control (LOCec) at 79,58. In the current study, the mean score for LOCa was found to be 164,22, while the LOCic subscale resulted in a mean score of 151,05 and the LOCec subscale indicated a mean score of 107,32. It can therefore be deduced that, generally, the individuals in the sample believe that they exert control over their actions. However, the LOCa and LOCic mean scores fall in the higher range, which signify that, on average, respondents exhibit a slightly higher perceived locus of control on these two subscales. However, the LOCec mean score falls in the high-average range, where ideally the score would have been in the low-average or low range. This could indicate that, as a hearing-impaired group, respondents may display a tendency to blame external influences for aspects in their lives. The implications of this will be discussed in Chapter 5.

In the following sections comparisons in terms of salutogenic functionality are made in different sub-groups of the hearing-impaired group.

#### **4.4.2 Comparison between Males and Females**

In Table 6 below the results are given for the salutogenic constructs in terms of gender. A comparison was made between the two groups.

**Table 6**  
*Results by Gender*

Variable	Gender	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
<i>Self-Efficacy (SEtot)</i>	Male	27	28,63	5,90	0,209	0,001
	Female	36	34,53			
<i>Sense of Coherence (SOCtot)</i>	Male	27	30,63	2,40	0,612	0,002
	Female	36	33,03			
<i>Comprehensibility (SOCcom)</i>	Male	27	33,56	2,73	0,564	0,002
	Female	36	30,83			
<i>Manageability (SOCman)</i>	Male	27	30,30	2,98	0,527	0,002
	Female	36	33,28			
<i>Meaningfulness (SOCmean)</i>	Male	27	29,30	4,73	0,314	0,002
	Female	36	34,03			
<i>Autonomy (LOCa)</i>	Male	27	32,89	1,56	0,743	0,003
	Female	36	31,33			
<i>Internal Control (LOCic)</i>	Male	27	30,41	2,78	0,555	0,002
	Female	36	33,19			
<i>External Control (LOCec)</i>	Male	27	33,69	2,95	0,532	0,002
	Female	36	30,74			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

The results indicate that there are no significant differences to be found between males and females for all the salutogenic constructs on any of the three statistical significance levels.

#### **4.4.3 Results by Age Groups**

In the questionnaire the participants were asked to indicate their age. This data could be utilised in conjunction with the onset of deafness so as to analyse results in terms of respondents who had relatively young histories of hearing impairment (between one and ten years) and those with longer histories. Analysis could also be conducted in terms of whether hearing impairment began during or after school-going age. However, owing to sample limitations, although such results could

contribute further to the study outcomes; in-group statistical analysis was only carried out by comparing different age groups.

The given ages were recoded into two groups, redefining the age groups into two categories, namely those between the ages of 18 and 35 and those aged 36 and older on the day of completing the questionnaire. The statistical results are indicated in Table 7.

**Table 7**  
*Results by Age Group*

Variable	Age Group	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
<i>Self-Efficacy (SEtot)</i>	≤ 35	26	23,10	2,02	0,621	0,004
	≥ 36	21	25,12			
<i>Sense of Coherence (SOCtot)</i>	≤ 35	26	26,69	6,02	0,136	0,001
	≥ 36	21	20,67			
<i>Comprehensibility (SOCcom)</i>	≤ 35	26	23,10	2,02	0,621	0,004
	≥ 36	21	25,12			
<i>Manageability (SOCman)</i>	≤ 35	26	26,87	6,42	0,112	0,001
	≥ 36	21	20,45			
<i>Meaningfulness (SOCmean)</i>	≤ 35	26	26,12	4,74	0,243	0,002
	≥ 36	21	21,38			
<i>Autonomy (LOCa)</i>	≤ 35	26	26,29	5,12	0,207	0,002
	≥ 36	21	21,17			
<i>Internal Control (LOCic)</i>	≤ 35	26	27,12	6,98	0,084*	0,001
	≥ 36	21	20,14			
<i>External Control (LOCec)</i>	≤ 35	26	24,02	0,04	0,996	0,004
	≥ 36	21	23,98			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

The results indicate that a statistically significant difference ( $p \leq 0,1$ ) was found between the two age groups for Internal Control (LOCic). The group aged 35 years and younger exhibited a higher Internal Control than the group aged 36 and older. This will be further discussed in Chapter 5.

#### 4.4.4 Results by Hearing Impairment Category

People with a hearing impairment can fall into one of three categories, namely Hard-of-hearing (HoH), Prelingually deafened (PreD) or Postlingually deafened (PostD). Descriptions of these categories have been provided in Chapter 2. Sixty-two participants completed this section of the questionnaire. The results according to the hearing impairment category are represented in Table 8 below.

**Table 8**  
*Results by Hearing Impairment Category*

Variable	Hearing Impairment	N	Mean Rank	Asymptotic Significance	Df
<i>Self-efficacy (SEtot)</i>	HoH	15	32,07	0,403	2
	PreD	34	33,50		
	PostD	13	25,62		
<i>Sense of Coherence (SOCtot)</i>	HoH	15	32,73	0,854	2
	PreD	34	30,34		
	PostD	13	33,12		
<i>Comprehensibility (SOCcom)</i>	HoH	15	29,17	0,800	2
	PreD	34	32,79		
	PostD	13	30,81		
<i>Manageability (SOCman)</i>	HoH	15	31,83	0,928	2
	PreD	34	30,78		
	PostD	13	33,00		
<i>Meaningfulness (SOCmean)</i>	HoH	15	36,70	0,250	2
	PreD	34	28,12		
	PostD	13	34,35		
<i>Autonomy (LOCa)</i>	HoH	15	32,47	0,098*	2
	PreD	34	27,71		
	PostD	13	40,31		
<i>Internal Control (LOCic)</i>	HoH	15	34,57	0,132	2
	PreD	34	27,49		
	PostD	13	38,46		
<i>External Control (LOCec)</i>	HoH	15	29,27	0,269	2
	PreD	34	34,69		
	PostD	13	25,73		

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

From the above, it is evident that a statistically significant difference ( $p \leq 0,1$ ) was found between the three groups for Autonomy (LOCa). In order to calculate the effect size of the significant result, it was necessary to undertake comparisons between two of the groups at a time, using the Mann-Whitney test. Table 9 refers.

**Table 9**  
*Results for LOCa in the Hearing Impairment Category*

Variable	Hearing Impairment	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
Autonomy (LOCa)	HoH	15	27,57	3,70	0,411	0,003
	PreD	34	23,87			
	HoH	15	12,90	3,45	0,279	0,005
	PostD	13	16,35			
	PreD	34	21,34	9,62	0,030**	0,000
	PostD	13	30,96			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

As can be seen from the above-given results, the only statistically significant difference ( $p \leq 0,05$ ) was found between the prelingually deafened group and the postlingually deafened group.

Hearing-impairment analysis was also conducted in order to compare hard-of-hearing (HoH) individuals with those with moderate-severe to profound hearing loss (SevL). The results are depicted in Table 10. This analysis indicates that no statistically significant differences were established between the two groups for any of the salutogenic constructs on any of the significance levels. Further details will be discussed in the next chapter.

**Table 10**  
*Results by Hearing Impairment Category*

Variable	Extent of Deafness	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
<i>Self-Efficacy (SEtot)</i>	HoH	15	32,07	0,75	0,893	0,003
	SevL	47	31,32			
<i>Sense of Coherence (SOCtot)</i>	HoH	15	32,73	1,62	0,767	0,003
	SevL	47	31,11			
<i>Comprehensibility (SOCcom)</i>	HoH	15	29,17	3,07	0,571	0,003
	SevL	47	32,24			
<i>Manageability (SOCman)</i>	HoH	15	31,83	0,44	0,938	0,003
	SevL	47	31,39			
<i>Meaningfulness (SOCmean)</i>	HoH	15	36,70	6,86	0,203	0,001
	SevL	47	29,84			
<i>Autonomy (LOCa)</i>	HoH	15	32,47	1,28	0,817	0,003
	SevL	47	31,19			
<i>Internal Control (LOCic)</i>	HoH	15	34,57	4,05	0,456	0,002
	SevL	47	30,52			
<i>External Control (LOCec)</i>	HoH	15	29,27	2,94	0,588	0,003
	SevL	47	32,21			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

#### 4.4.5 Results by Onset of Deafness

Of the 63 participants, 61 indicated the onset of their deafness. Of the 61 participants, seven indicated that the onset of their hearing impairment was unknown to them. Of the remaining respondents (N=54), 35 indicated that they were born with hearing impairment and 19 indicated that it had occurred after birth. The results are depicted in Table 11.

The results in this table illustrate that statistically significant differences ( $p \leq 0,5$  and  $p \leq 0,1$  levels respectively) were found between the Self-efficacy and Autonomy of those who were born with a hearing-impairment and those who acquired this later in

life. The latter group appear to possess a stronger perceived Self-efficacy and Autonomy. For all the other constructs the differences are not statistically significant.

**Table 11**  
*Results by Onset of Deafness*

Variable	Onset	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
<i>Self-Efficacy (SEtot)</i>	Acquired	19	20,21	11,25	0,011**	0,000
	Birth	35	31,46			
<i>Sense of Coherence (SOCtot)</i>	Acquired	19	28,55	1,62	0,723	0,003
	Birth	35	26,93			
<i>Comprehensibility (SOCcom)</i>	Acquired	19	29,11	2,48	0,586	0,003
	Birth	35	26,63			
<i>Manageability (SOCman)</i>	Acquired	19	29,50	3,09	0,497	0,003
	Birth	35	26,41			
<i>Meaningfulness (SOCmean)</i>	Acquired	19	29,32	2,81	0,538	0,003
	Birth	35	26,51			
<i>Autonomy (LOCa)</i>	Acquired	19	32,29	7,39	0,100*	0,001
	Birth	35	24,90			
<i>Internal Control (LOCic)</i>	Acquired	19	30,32	4,35	0,338	0,002
	Birth	35	25,97			
<i>External Control (LOCec)</i>	Acquired	19	23,82	5,68	0,208	0,002
	Birth	35	29,50			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

#### 4.4.6 Results by Hearing Status of Parents

Respondents were asked to indicate the status of their parents' hearing. Sixty one respondents completed this item. They were given six different options to choose from, but due to the small sample size, options have been collated into two groups, namely one or both parents having a hearing impairment, or both parents having no hearing impairment. The results are shown in Table 12.

**Table 12**  
*Results by Hearing Status of Parents*

Variable	Parents Status	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
<i>Self-Efficacy (SEtot)</i>	Impaired	9	28,67	2,73	0,678	0,004
	Hearing	52	31,40			
<i>Sense of Coherence (SOCtot)</i>	Impaired	9	39,28	9,71	0,133	0,001
	Hearing	52	29,57			
<i>Comprehensibility (SOCcom)</i>	Impaired	9	30,50	0,59	0,932	0,004
	Hearing	52	31,09			
<i>Manageability (SOCman)</i>	Impaired	9	35,78	5,61	0,390	0,003
	Hearing	52	30,17			
<i>Meaningfulness (SOCmean)</i>	Impaired	9	41,44	12,25	0,055*	0,001
	Hearing	52	29,19			
<i>Autonomy (LOCa)</i>	Impaired	9	35,61	5,41	0,408	0,003
	Hearing	52	30,20			
<i>Internal Control (LOCic)</i>	Impaired	9	38,06	8,28	0,202	0,002
	Hearing	52	29,78			
<i>External Control (LOCec)</i>	Impaired	9	32,72	2,02	0,760	0,004
	Hearing	52	30,70			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

The results indicate a statistically significant difference ( $p \leq 0,1$ ) between the two groups for Meaningfulness. The respondents of the group who grew up with one or more hearing-impaired parents evidenced a higher mean rank score than those in the group who grew up with hearing parents. This is further discussed in Chapter 5.

#### **4.4.7 Results by Hearing Status of Spouse or Partner**

This item required respondents to indicate the hearing status of their spouses (partners). This item was completed by 57 respondents, of which 18 (28,6%) indicated that they did not currently have a spouse (partner). The remaining 39 (61,9%) indicated a spouse (partner) with either a hearing impairment or hearing. The results according to salutogenic functioning in terms of having a hearing or hearing impaired spouse or partner are tabled below.

**Table 13**  
*Results by Hearing Status of Spouse*

Variable	Spouse Status	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
<i>Self-Efficacy (SEtot)</i>	Impaired	22	22,73	6,26	0,090*	0,001
	Hearing	17	16,47			
<i>Sense of Coherence (SOCtot)</i>	Impaired	22	18,25	4,01	0,282	0,003
	Hearing	17	22,26			
<i>Comprehensibility (SOCcom)</i>	Impaired	22	16,95	6,99	0,058*	0,001
	Hearing	17	23,94			
<i>Manageability (SOCman)</i>	Impaired	22	19,41	1,35	0,720	0,005
	Hearing	17	20,76			
<i>Meaningfulness (SOCmean)</i>	Impaired	22	18,68	3,03	0,419	0,004
	Hearing	17	21,71			
<i>Autonomy (LOCa)</i>	Impaired	22	16,95	6,99	0,058*	0,001
	Hearing	17	23,94			
<i>Internal Control (LOCic)</i>	Impaired	22	16,89	7,14	0,052*	0,001
	Hearing	17	24,03			
<i>External Control (LOCec)</i>	Impaired	22	22,75	6,31	0,088*	0,001
	Hearing	17	16,44			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

Statistically significant differences ( $p \leq 0,1$ ) were found for five of the eight salutogenic constructs, namely Self-efficacy, Comprehensibility, Autonomy, Internal Control and External Control. In all these cases the group with hearing spouses seemed to possess better perceived salutogenic functionality in all these constructs than those with hearing-impaired spouses. This is discussed further in the next chapter.

#### **4.4.8 Results by Primary and Secondary Schools Attended**

Sixty-two participants indicated what type of primary and secondary schools they had attended. The options consisted of schools for hearing learners, schools for deaf or hard-of-hearing learners and mixed schools (where both hearing and hearing impaired learners attended). For the purposes of this study, comparisons of the different salutogenic constructs are drawn between two groups, namely those who

attended schools geared towards hearing impaired learners and those who attended schools not geared in this fashion. The statistics are recorded in Tables 14 and 15 for primary and secondary schools separately.

**Table 14**  
*Results by Type of Primary School Attended*

Variable	Primary School	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
<i>Self-Efficacy (SEtot)</i>	Impaired	48	32,88	6,09	0,271	0,002
	Hearing	14	26,79			
<i>Sense of Coherence (SOCtot)</i>	Impaired	48	30,73	3,41	0,540	0,003
	Hearing	14	34,14			
<i>Comprehensibility (SOCcom)</i>	Impaired	48	31,63	0,56	0,924	0,003
	Hearing	14	31,07			
<i>Manageability (SOCman)</i>	Impaired	48	30,45	4,66	0,401	0,002
	Hearing	14	35,11			
<i>Meaningfulness (SOCmean)</i>	Impaired	48	30,46	4,61	0,406	0,002
	Hearing	14	35,07			
<i>Autonomy (LOCa)</i>	Impaired	48	29,01	11,03	0,044**	0,000
	Hearing	14	40,04			
<i>Internal Control (LOCic)</i>	Impaired	48	28,36	13,89	0,010***	0,000
	Hearing	14	42,25			
<i>External Control (LOCec)</i>	Impaired	48	33,44	8,58	0,119	0,001
	Hearing	14	24,86			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

The results indicate that statistically significant differences ( $p \leq 0,05$  and  $p \leq 0,01$  respectively) were found in two constructs, namely the Locus of Control subscales Internal Control (LOCic) and Autonomy (LOCa). In both these cases those individuals who attended schools geared towards hearing learners showed higher perceived Internal Control and Autonomy.

In terms of the results for the Secondary School attended, Table 15 below refers. With respect to any of the significance levels, all the statistics indicate that there were no statistically significant differences between the group who attended a

hearing secondary school and those attending a secondary school geared towards hearing-impaired individuals. These findings are further discussed in the next chapter.

**Table 15**  
*Results by Type of Secondary School Attended*

Variable	Secondary School	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
<i>Self-Efficacy (SEtot)</i>	Impaired	50	32,28	4,03	0,494	0,003
	Hearing	12	28,25			
<i>Sense of Coherence (SOCtot)</i>	Impaired	50	31,11	2,02	0,735	0,003
	Hearing	12	33,13			
<i>Comprehensibility (SOCcom)</i>	Impaired	50	32,60	5,68	0,333	0,002
	Hearing	12	26,92			
<i>Manageability (SOCman)</i>	Impaired	50	30,82	3,51	0,552	0,003
	Hearing	12	34,33			
<i>Meaningfulness (SOCmean)</i>	Impaired	50	30,44	5,48	0,351	0,002
	Hearing	12	35,92			
<i>Autonomy (LOCa)</i>	Impaired	50	30,10	7,23	0,217	0,002
	Hearing	12	37,33			
<i>Internal Control (LOCic)</i>	Impaired	50	29,69	9,35	0,108	0,001
	Hearing	12	39,04			
<i>External Control (LOCec)</i>	Impaired	50	32,07	2,94	0,619	0,003
	Hearing	12	29,13			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

#### 4.4.9 Results by Current Employment Status

Respondents were requested to indicate whether they are currently employed. All 63 respondents answered the question. Results were generated in terms of the salutogenic constructs for both the employed group and the unemployed group. Consult Table 16.

**Table 16**  
*Results by Employment Status*

Variable	Employment	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
<i>Self-Efficacy (SEtot)</i>	Employed	51	32,23	1,19	0,846	0,003
	Unemployed	12	31,04			
<i>Sense of Coherence (SOCtot)</i>	Employed	51	31,47	2,78	0,644	0,003
	Unemployed	12	34,25			
<i>Comprehensibility (SOCcom)</i>	Employed	51	32,90	4,73	0,427	0,003
	Unemployed	12	28,17			
<i>Manageability (SOCman)</i>	Employed	51	30,78	6,39	0,283	0,002
	Unemployed	12	37,17			
<i>Meaningfulness (SOCmean)</i>	Employed	51	30,89	5,82	0,329	0,002
	Unemployed	12	36,71			
<i>Autonomy (LOCa)</i>	Employed	51	32,81	4,27	0,475	0,003
	Unemployed	12	28,54			
<i>Internal Control (LOCic)</i>	Employed	51	31,59	2,16	0,720	0,003
	Unemployed	12	33,75			
<i>External Control (LOCec)</i>	Employed	51	31,17	4,37	0,464	0,003
	Unemployed	12	35,54			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

The results indicate that the differences between the employed and unemployed groups are not statistically significant for any of the constructs on any of the significance levels.

#### 4.4.10 Results by Qualification

This item was completed by 41 respondents who indicated their highest completed qualification. These responses were coded into two groups, namely those respondents with a post-matric qualification (either academic or technical), and those with matric and / or a lower qualification. The results are given in Table 17.

The statistical analysis indicated that statistically significant differences are evident between the two groups for three of the constructs, namely the Sense of Coherence

subscale Meaningfulness ( $p \leq 0,1$ ), the Locus of Control subscales Autonomy ( $p \leq 0,05$ ) and Internal Control ( $p \leq 0,05$ ). In all three of these cases the group with a tertiary qualification appeared to report higher perceived salutogenic functionality than the group with matric or lower.

**Table 17**  
*Results by Qualification*

Variable	Qualification	N	Mean Rank	Mean Difference	Exact Significance (2-tailed)	Point Probability
<i>Self-Efficacy (SEtot)</i>	Post matric	10	17,55	4,56	0,303	0,004
	Matric -	31	22,11			
<i>Sense of Coherence (SOCtot)</i>	Post matric	10	23,70	3,57	0,423	0,004
	Matric -	31	20,13			
<i>Comprehensibility (SOCcom)</i>	Post matric	10	17,95	4,03	0,363	0,004
	Matric -	31	21,98			
<i>Manageability (SOCman)</i>	Post matric	10	22,95	2,58	0,564	0,005
	Matric -	31	20,37			
<i>Meaningfulness (SOCmean)</i>	Post matric	10	27,40	8,46	0,051*	0,001
	Matric -	31	18,94			
<i>Autonomy (LOCa)</i>	Post matric	10	27,85	9,06	0,037**	0,001
	Matric -	31	18,79			
<i>Internal Control (LOCic)</i>	Post matric	10	27,80	8,99	0,038**	0,001
	Matric -	31	18,81			
<i>External Control (LOCec)</i>	Post matric	10	17,95	4,03	0,364	0,004
	Matric -	31	21,98			

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

#### 4.5 INTEGRATION

As a group, results for the hearing impaired respondents indicated average salutogenic mean scores for Self-Efficacy and Sense of Coherence. The Locus of Control scale and subscales displayed more elevated mean scores, with Autonomy and Internal Control evidencing more positive tendencies, while the External Control subscale was also elevated, indicating that as a group, hearing-impaired individuals may tend to place responsibility for happenings in their lives on external influences.

From the generated in-group variable results (gender, age, deafness category, onset, hearing status of parents and spouse, type of primary and secondary school attended, qualification level and employment status), it can be seen that there were statistically significant differences in the results for the hearing-impaired group's salutogenic functionality. The significant findings, with their corresponding Z-scores and effect sizes ( $r$ ), are summarised in Table 18.

The table indicates statistically significant differences in at least one aspect of each of the three salutogenic constructs measured (Sense of Coherence, Locus of Control and Self-efficacy). These statistical differences manifested in the range of a small to medium effect size (mean  $r = -0,29$ ).

**Table 18**  
**Statistically Significant Results Summary**

Salutogenic Construct	In-group Variable	Sub-groups	Mean Rank Score	Mean Difference	Exact Significance (2-tailed)	Z	N	R
<i>Self-Efficacy (SEtot)</i>	Onset of Deafness	Acquired Birth	20,21 31,46	11,25	0,011**	-2,51	54	-0,34
		Status of Spouse	Impaired Hearing					
<i>Comprehensibility (SOCcom)</i>	Status of Spouse	Impaired Hearing	16,95 23,94	6,99	0,058*	-1,90	39	-0,30
<i>Meaningfulness (SOCmean)</i>	Qualification	Post matric	27,40	8,46	0,051*	-1,95	41	-0,30
		Matric -	18,94					
	Status of Parents	Impaired Hearing	41,44 29,19	12,25	0,055*	-1,91	61	-0,25
<i>Autonomy (LOCa)</i>	Hearing Impairment Category	PreD	21,34	9,62	0,030**	-2,15	47	-0,31
		PostD	30,96					
	Onset of Deafness	Acquired Birth	32,29 24,90	7,39	0,100*	-1,65	54	-0,22
		Status of spouse	Impaired Hearing	16,95 23,94	6,99	0,058*	-1,90	39
	Primary School	Impaired Hearing	29,01 40,04	11,03	0,044**	-2,01	62	-0,26
Qualification	Post matric	27,85	9,06	0,037**	-2,08	41	-0,33	
Matric -	18,79							
<i>Internal Control (LOCic)</i>	Age Group	≤ 35	27,12	6,98	0,084*	-1,73	47	-0,25
		≥ 36	20,14					
	Status of Spouse	Impaired Hearing	16,89 24,03	7,14	0,052*	-1,94	39	-0,31
	Primary School	Impaired Hearing	28,36 42,25	13,89	0,010***	-2,53	62	-0,32
Qualification	Post matric	27,80	8,99	0,038**	-2,07	41	-0,32	
Matric -	18,81							
<i>External Control (LOCec)</i>	Status of Spouse	Impaired Hearing	22,75 16,44	6,31	0,088*	-1,71	39	-0,27

\*\*\* $p \leq 0,01$  \*\* $p \leq 0,05$  \* $p \leq 0,1$

#### **4.6 CHAPTER SUMMARY**

In this chapter the results of the statistical analysis were reported. The biographical sample was described and the results according to different biographical variables were indicated and described. The significant differences were pointed out and the integrated findings reported.

In the following chapter discussion and interpretation of the results will be carried out.

## **CHAPTER 5            DISCUSSION**

In this chapter the results described in Chapter 4 will be discussed and linked with the relevant literature. The discussion will focus on areas where significant differences between the groups were found. The chapter ends with a summary.

### **5.1 SALUTOGENIC PROFILE OF HEARING IMPAIRED ADULTS**

In terms of the salutogenic profile of this sample of hearing impaired adults, interpretations can be derived from the statistical results described in the previous chapter. All the statistically significant findings were of a small to medium effect size; thus this will not be further discussed, since this will not contribute to the statistical interpretation of the results as would have been the case had the effect sizes differed. The interpretations are provided below.

#### **5.1.1 Self-Efficacy (SE)**

Self-Efficacy refers to an individual's belief that he/she can perform a required behaviour for a specific task successfully. The mean Self-Efficacy score of the hearing-impaired group as a whole indicates that their self-efficacy is placed at the higher end of the average category. This could indicate that the individuals in the group perceive themselves as able to function effectively and manage environmental challenges, such as their hearing-impairment, by focussing on potentially beneficial opportunities rather than risks involved with their disability. In general they will persist in setting goals for themselves and reaching them, and will not ascribe failure to uncontrollable factors, such as their hearing impairment. This substantiates the argument advanced by Kaland and Salvatore (2002) that, while there are negative aspects to hearing loss, hearing-impaired people have come to incorporate it into their personalities and into their identity and have developed means of coping. They are typically able to accept their hearing-impairment as part of their lives and do not see it as a major inhibitor or as an excuse for poor performance. This group therefore perceives themselves as being able to manage the internal conflict that is part of a hearing-impaired individual's world of understanding, whether they are restricting themselves through their self-imposed attitude or whether it is the environment in which they find themselves.

However, when considering inter-group differences within the hearing-impaired group as a whole, two SE differences were found between the groups: these were in terms of the onset of hearing-impairment and the hearing status of the spouse, given below.

#### *5.1.1.1 SE and Onset of Deafness*

The group that acquired deafness later in life showed a much stronger SE than the group which had been hearing-impaired since birth, and the group with hearing spouses showed a higher SE than the group who reported a hearing-impaired spouse. Possible reasons for this could be that those who had been hearing to begin with enjoyed the opportunity for more vicarious and mastery experiences before their hearing-impairment set in, a finding which supports the SE literature. Self-efficacy is determined by one's prior successes or mastery experiences, which have the strongest effect on SE expectations, as indicated by Coetzee (2003). Owing to the ease of communication and of learning language (if they are deafened after their acquisition of language), these individuals may well believe themselves more capable of achieving their goals than those who were never able to learn to talk and acquire language skills before they became hearing-impaired.

#### *5.1.1.2 SE and the Hearing Status of Spouse or Partner*

The same argument can be advanced for the fact that hearing-impaired individuals with hearing spouses report better salutogenic functionality than those with hearing-impaired spouses, since the spouses offer the hearing-impaired individual opportunities for more numerous successes and mastery experiences, which in turn increases SE expectations.

### **5.1.2 Sense of Coherence (SOC)**

Sense of Coherence is the extent to which one possesses a pervasive, enduring though dynamic feeling of confidence that one's internal and external environments are predictable and that there is a high probability that matters will work out as well as can reasonably be expected. The mean score of the hearing-impaired group as a whole indicates that their perceived Sense of Coherence is average, which suggested that they should generally be able to cope successfully. Therefore, they can be expected to display healthy behaviours and to be able to guard against

depression, anxiety, psychological distress and psychological symptoms. This fits with Jacelon (1997) who argues that one of the personal characteristics that may assist adjustment for hearing-impaired individuals is a well-developed sense of meaning which guides the individual.

In terms of the subscale Meaningfulness, the results were positioned at the high end of average. Meaningfulness refers to the perception that the demands posed are challenges worthwhile spending energy on and constitutes the motivational element of Sense of Coherence. Therefore, the hearing-impaired group perceive stimuli in general as making sense to them emotionally and cognitively, and feel a sense of importance and value inherent in stimuli, making these worthwhile spending energy on.

Manageability refers to the perception that resources are available to meet the demands posed by the mentioned stimuli. The results for the Manageability subscale were average. This could indicate that the hearing-impaired group generally perceives their life experiences to be bearable, able to be coped with and controlled, and that challenges can be met through their available resources.

Comprehensibility refers to the perception of the individual that stimuli from the external and internal environments are structured and predictable – making sense on a cognitive level. The results showed average Comprehensibility overall on the subscale, indicating that the hearing-impaired group generally experience their environment to be structured, which makes it possible to anticipate and discover structure in future events.

However, when the researcher was looking at inter-group differences within the hearing-impaired group as a whole, differences were found when investigating Sense of Coherence, in terms of the subscales Meaningfulness and Comprehensibility. The inter-group differences established were at the level of the qualification that they had managed to obtain, as well as the hearing status of parents and spouses.

#### *5.1.2.1 SOC and Qualification Level*

The group with post-matric qualifications possessed higher perceived Meaningfulness than the group with matric or lower. Obtaining post-matric qualifications would be difficult for someone with a hearing-impairment. The more complex the task at hand, the more helpful a strong sense of coherence would be in helping individuals to be motivated to accept the challenge, create some form of structure and to search for appropriate resources that would be helpful in completing the task. A strong sense of coherence will also help individuals to trust that the outcome of the task would be relatively successful and to embark on the task in the first place. A strong sense of coherence leads to allocating energy to stressors and viewing these as challenges on which it is worthwhile to spend energy. This concurs with findings by Rogers, Muir and Evenson (2003) that participating in meaningful ways in the larger community outside of their own family environment (such as gaining a qualification) would prevent vulnerable types (such as those with a disability) from experiencing failure and at the same time assist them to develop their talents in order to achieve better-than-expected outcomes in conditions of risk.

#### *5.1.2.2 SOC and the Hearing Status of Parents*

The group of respondents with one or more hearing-impaired parent reported possessing a higher sense of Meaningfulness than those who had hearing parents. This could be due to parents 'speaking the same language' as the child, and who thereby understand how to communicate with the child because they are also hearing-impaired. It could be that a hearing-impaired child finds the world more understandable owing to their parents being able to communicate with them on their level in their language and the latter understanding the culture of being hearing-impaired, therefore being able to influence the hearing-impaired child's perception and making the 'hearing' world more understandable.

#### *5.1.2.3 SOC and the Hearing Status of Spouse or Partner*

Differences were also established between the Comprehensibility levels of the group of those with a hearing spouse and of those whose spouse was hearing-impaired. The former group revealed a higher comprehensibility than the group with hearing-impaired spouses. This concurs with findings by Coetzee (2003) that SOC relates to the perception that aspects can fall under the individual's own control or under the

control of legitimate others who have the power to resolve matters in the individual's interest, such as a spouse or relatives. People with a strong sense of coherence would perceive stressors as manageable and would therefore select the resources at their disposal or those under the control of significant others, such as a hearing partner, to deal with a stressor instead of reverting to measures such as helplessness. They also function between two worlds, the hearing-impaired and hearing worlds, when interacting with their spouses, therefore they would need to understand more of what happens in the hearing world, and will necessarily adjust. This would also be necessary in order to discover common ground with hearing individuals in order to be able to function in a relationship.

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

LOC is the extent to which individuals believe that their behaviour exerts a direct impact on the events that follow; an internal LOC is regarded as a key factor creating resilience in the face of adversity. Three areas within this construct are internal LOC (which determines whether respondents ascribe performance to causes under their own control), external LOC (which determines the extent to which respondents attribute performance to causes outside their control) and autonomy (which determines whether respondents are able to believe in their own abilities, to act independently and with confidence, and to make decisions and take active steps that lead to the solution of the problem).

The mean rank score of the group as a whole indicated that their perceived internal LOC is situated at the higher end of the average. Average results were indicated for autonomy, while their external LOC scores were slightly elevated (falling at the higher end of the average). In general, healthy salutogenic functionality would be indicated by higher internal control and autonomy and lower external control. However, the group of hearing-impaired individuals indicated higher external control. This concurs with the research findings which state that individuals belonging to a minority or stigmatised group tend to be more external in their style, and that this could be due to the direct teaching of significant others who influence and serve to reinforce external control, and to the reality such individuals face regarding restrictions in life (Coetzee, 2003). Hearing impairment could constitute an element which would restrict individuals in terms of opportunities in work and other aspects of

their lives. A few participants indicated supporting evidence for this view, of which the following comments bear witness:

*I need to be twice as convincing during interviews. I am an excellent lip reader, but if a normal hearing person talks badly, I battle to understand them, but they tend to believe the fault lies with me.*

*Communication is difficult – my boss and colleagues must speak clearly, but don't care. They should be able to sign, but can't. I can't get a promotion because of telephones.*

*Deaf people really want to study further, but to appoint a full-time interpreter is very difficult and much too expensive to provide full-time payment. We expect the [national] Department of Sport and Culture will subsidise the universities to provide a full-time interpreter. Because of confusion with communication we Deaf people have a lack of education and training.... All of us have the need that at least someone at work will be willing to learn sign language at every organisation where a hearing-impaired individual works, for when a deaf person needs an interpreter. My biggest need is that there are full-time subtitles on any TV channel like on Australian and England's TV. What happens to all the taxes we pay? We deaf people expect compensation for this. Because we cannot read lips and hear what is being said on the TV and we cannot listen to radio or lip-read from it. Our communication is limited.*

However, when considering inter-group differences within the hearing-impaired group as a whole, significant differences were found when investigating LOC. The inter-group differences related to age groups, the hearing impairment category, onset of deafness, whether the spouse was hearing or hearing-impaired, whether respondents attended primary schools geared towards hearing-impaired or hearing

learners, and the level of qualification they reached. These will be discussed separately.

#### *5.1.3.1 LOC and Age Group*

The younger age group exhibited much higher perceived internal control than the older age group. The younger group therefore believe more so that reinforcements are resulting from their own actions and under their personal control, and that they can have control over their environment and influence what happens. They are more likely to accept responsibility for their own behaviour and circumstances and may tackle demands made on them confidently without being unnecessarily or excessively dependent on others, actively looking to themselves for direction (Coetzee, 2003).

#### *5.1.3.2 LOC and Hearing-Impairment Category*

The postlingually-deafened group indicated better Autonomy (LOCa) than the prelingually-deafened group. This therefore supports the findings by Thomas (1984) which establish that achievement is affected more if an individual is prelingually deafened. The results show that people who may be more inclined towards the deaf culture, such as severely prelingually deafened individuals, could maintain different expectations or values concerning their expression of internality or externality, owing to LOC being linked to culture, amongst others (Coetzee, 2003).

#### *5.1.3.3 LOC and Onset of Deafness*

The subgroup that acquired their hearing impairment later in life showed much better LOCa than the group who were born hearing-impaired. Due to LOC having its roots in the formative years (Coetzee, 2003), this finding could explain why those born hearing possess a stronger LOC, since they enjoyed the opportunity to develop in the mainstream hearing culture, where the opportunity to develop these aspects would be greater than for those born hearing-impaired. Also, McKenna (1993) refers to studies indicating that acquired hearing-loss in people of employment age led to loneliness and isolation caused by the reduction of personal contacts and difficulties in communicating, but that this was much less of a problem for the elderly deafened individuals, which further supports this study's findings.

#### *5.1.3.4 LOC and hearing Status of Spouse or Partner*

The group with hearing spouses or partners displayed much better autonomy, internal and external control than the group who had hearing-impaired spouses or partners. This could be due to the external mainstream support structure providing them with more confidence to perform, thereby enhancing their perception of independence and giving them the perception that they are able to control aspects in their environment. They therefore believe, to a greater extent than those with hearing-impaired spouses, that reinforcements result from their own actions and are therefore under their personal control. Those with hearing-impaired spouses might be more likely to believe that luck, fate, powerful others or chance influences are responsible for events in their lives.

Also, individuals with hearing spouses appear to display less of an external LOC than those with hearing-impaired partners. This corroborates the findings by Phares (1976) that individuals belonging to a minority or stigmatised group tend to be more external in their LOC and that those individuals who form part of a hearing-impaired couple would be more liable to possess a higher external LOC than those with a hearing partner.

#### *5.1.3.5 LOC and Type of Primary School*

The group that attended a primary school for hearing learners exhibited higher perceived Autonomy and Internal Control than the group who attended primary schools geared towards hearing-impaired learners. This could be interpreted as indicating that mainstream schooling during formative years gave them the perception that they possess control over their environment and can influence what happens. This supports the perspective adopted by Bat-Chava (2000) and Ross, Brackett and Maxon (1991), who postulate that a crucial factor in the development of hearing-impaired children is the type of school they attend and that a hearing school environment will have a very different effect on a child's development from that of a school geared towards hearing-impaired learners, since the cultures nurtured in these two types of school would differ. A child reared in a hearing-impaired environment would most likely adopt the deaf culture, while a child reared in a hearing environment would be likely to adopt a hearing culture, even though he/she may be hearing-impaired. Children growing up in hearing school environments are

more immersed in the hearing culture and tend to prefer oral communication and therefore become culturally hearing, in spite of their hearing-impairment (Nikolarazi & Makri, 2004). Those that adopt the hearing culture would most likely be more comfortable in adapting to mainstream environments and situations than those who are more comfortable in the different culture of a mainly deaf environment. This view was supported by a respondent's comment:

*I grew up in the hearing world, but now I am in the deaf world and I struggle to adapt to the deaf world with its language, sign language. In the past 3 years it has improved a little, but it takes long to adapt... I have worn a hearing apparatus my whole life – can't go without it.*

Brill (1978) investigated the views of parents who had to choose between enrolling their hearing-impaired child with other hearing children or in a school for hearing-impaired individuals. The parents who decided to send their children to mainstream schools indicated that this exposed the child to the hearing world in which he/she would have to function, that it rendered the children more independent and responsible, taught the children better oral and academic skills and motivated the children to perform better than would have been the case in a school for hearing-impaired children. Negative comments included the social isolation experienced by the children and difficulties in communication, as well as having to perform in terms of the standards set for children who do not have to contend with a disability.

#### *5.1.3.6 LOC and Qualification Level*

The group with a post-matric qualification indicated much better salutogenic functionality for autonomy and internal control. Therefore it could be argued that higher levels of salutogenic functionality are needed in order for hearing-impaired individuals to be able to perform. An individual with an internal locus of control will ascribe performance to causes within his own control (competence or behaviour); and his/her performance in the future is then consequently determined by the attributions allocated to the performance.

#### **5.1.4 Inter-group differences**

It is important to note that few differences were found between the different groups measured and that the effect sizes of the differences indicate that the practical significance of the findings falls in the small to medium range. From the eighty possible statistical differences measured, fifteen differences were found (refer to Table 18). Aspects such as gender, secondary school attended and employment status did not show significant differences between the sub-groups regarding the outcome of the hearing-impaired group's salutogenic functionality. According to the results obtained from the present study, these demographical aspects therefore do not necessarily exert any influence on the salutogenic functionality of hearing-impaired individuals in this sample.

There appeared to be significant differences between the hearing impaired group with a post-matric qualification and the group with matric or lower. The former group displayed higher levels of Autonomy, Internal Control and Meaningfulness. This supports findings by Anderson and Miller (2004) that persistence was a recurring quality demonstrated by hearing-impaired individuals who overcame obstacles to obtain educational opportunities.

The group that attended a primary school geared towards hearing learners also indicated higher levels of Autonomy and Internal Control than the group that attended primary schools geared towards hearing-impaired learners. This concurs with the findings of Anderson and Miller (2004) who found that childhood experiences contributed to the development of a positive self-identity and self-esteem in coloured hearing-impaired individuals.

Onset of deafness seemed to have a significant influence on perceived Self-efficacy and Autonomy, with those born hearing-impaired showing lower perceived levels of salutogenic functionality than those who acquired hearing-impairment after birth. This corroborates findings by McKenna (1993) that self-efficacy development can be stunted if a baby is born hearing-impaired. In general, the formative years of a hearing-impaired individual appear to influence Self-efficacy, Autonomy and Internal

Control, especially in terms of education and opportunity to receive mainstream schooling.

The hearing status of the spouse also seemed to make a difference in terms of Self-efficacy, Comprehensibility, Autonomy, Internal and External Control. Those hearing-impaired individuals who were partnered with hearing spouses seemed to demonstrate a higher salutogenic functionality than those with hearing-impaired spouses. This could be indicative of the stronger group's motivation to function effectively in the hearing world, therefore feeling able to partner with a hearing individual. It could also be that having a hearing partner renders functionality in the hearing world easier owing to having a hearing person as monitor and support with regards to input from a mainstream environment. Hearing-impaired adults who have participated in qualitative studies have indicated two main aspects that relate to their success; firstly, their desire to work hard and overcome challenges and achieve goals, and secondly, they mentioned the support, inclusion and encouragement to learn (Luckner & Stewart, 2003).

One respondent who is severely deaf and is married to a hearing spouse commented:

*My hearing was damaged at birth. I had a speech therapist. I talk normally and look at people's lips if they talk to me. I have been a housewife for 6 years since I was married.*

Qualification level seems to be closely linked to salutogenic functionality, as this aspect indicated inter-group differences in three of the eight constructs that were found to create significant inter-group differences (Meaningfulness, Autonomy and Internal Control). One respondent commented:

*I am currently doing my masters in education psychology. Have studied throughout and have worked on a part-time basis.*

For any individual it is challenging to work and study at the same time. The challenges of doing so for a hearing-impaired individual can be even more daunting

owing to the extra strain of having to deal with the communication aspect that accompanies being hearing-impaired. Some of the responses from respondents who obtained post-matric qualifications demonstrated Autonomous behaviour by identifying and utilising the necessary support structures to enable them to obtain the qualification.

*I am a student ... This is my third year of study here... My main language is Sign Language through an interpreter in all my classes. My writing work and books are Afrikaans and/or English.*

*During university I could not follow what was being said during the lectures, and was completely dependent on text books and the support of fellow students.*

*I attended courses at university – needed interpreter in class to follow the lecturer.*

In a previous study by Luckner and Stewart, (2003) hearing-impaired individuals with post-matric qualifications have stated the importance of intrinsic motivation to achieve, a finding which links with the theme of Autonomy.

## **5.2 INTEGRATION**

As a group, the hearing impaired sample demonstrated relatively healthy salutogenic functionality. It seems to be clear from the results of the study and the above-mentioned discussion that the hearing-impaired individuals in this study fall in the average range of salutogenic functionality, indicating that they are generally able to cope in their environments. They may tend towards the higher end of average in aspects relating to Locus of Control and Self-efficacy.

In terms of inter-group differences the following was established:

- There were two significant differences between the groups in terms of Self-efficacy, namely onset of hearing-impairment and hearing status of spouse:

- those respondents who acquired their hearing-impairment later in life showed higher perceived Self-efficacy than those who were hearing-impaired from birth; and
- those with a hearing spouse reported higher perceived Self-efficacy than those with a hearing-impaired spouse;
- There were three significant differences between groups in terms of Sense of Coherence, namely qualification level obtained, hearing status of spouse and hearing status of parents:
  - those with post-matric qualifications showed higher perceived Meaningfulness than those with matric or lower;
  - those with hearing-impaired parents indicated higher perceived Meaningfulness than those with hearing parents;
  - those with post-matric qualifications reported higher perceived Comprehensibility than those with matric or lower;
- Ten significant differences were found for LOC for the hearing impairment categories, onset of deafness, hearing status of spouse, primary school attended, age group, and qualification level.
  - The postlingually deafened group evidenced higher Autonomy than the prelingually deafened group;
  - Those who acquired their hearing impairment later in their lives reported higher Autonomy than those who were hearing-impaired from birth;
  - those who attended hearing primary schools showed higher perceived Autonomy and Internal Control;
  - Those who had hearing spouses evidenced higher Autonomy and Internal Control, but lower External Control;
  - Those who had post-matric qualifications indicated higher perceived Autonomy and Internal Control; and,
  - The younger group reported higher Internal Control than the older group.

### **5.3 CHAPTER SUMMARY**

In this chapter the researcher discussed the possible reasons for the outcomes of the results according to the three salutogenic constructs Self-Efficacy, Sense of

Coherence and Locus of Control. Significant inter-group differences were also considered and the implications of the findings explored. The next chapter will encompass the conclusion, recommendations and limitations of the study.

## **CHAPTER 6 CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS**

This chapter includes an overview of the conclusions reached for the current study. These conclusions are approached from the literature review as well as from the empirical study. Thereafter the limitations of the study will be discussed and recommendations made in terms of further investigations which could be carried out.

### **6.1 CONCLUSIONS**

Conclusions are arrived at in the following sections with respect to the specific literature objectives and the empirical findings obtained in the present study.

Disabled individuals, and more specifically hearing-impaired individuals, definitely face challenges in life with respect to aspects that are taken for granted in the mainstream society and culture. It requires extra effort and extra input and resources in order for a disabled or hearing-impaired individual to achieve on the same level as a hearing or able-bodied individual. Healthy salutogenic functionality is therefore of utmost importance for a hearing-impaired person to be able to function effectively in a mainstream environment. Some qualitative data exists with regards to the relationship between disability and the three salutogenic constructs discussed in the present study (Sense of Coherence, Locus of Control and Self-Efficacy); mostly in terms of the resilience of disabled individuals in general and aspects that assist them to cope in mainstream society.

As a group, hearing-impaired individuals who completed the questionnaires did not indicate above-average salutogenic functionality, but generally reported average results with slight elevations in some scales. This was indicated by:

- Average scores on the Locus of Control Inventory, except for the slightly elevated score on the External Control subscale. The Internal Control subscale showed scores that tended on the higher side of average while the Autonomy sub-scale evidenced average scores.
- Average score on the Orientation to Life Questionnaire. This consisted of average scores on the subscales Manageability and Comprehensibility, and those tending to the higher side of average scores on the subscale Meaningfulness.

- A score that tended to the higher side of average on the Self-Efficacy Scale.

There were statistically significant differences in sub-groups among the hearing-impaired individuals, so the null hypotheses were rejected in these cases, which were indicated by:

- Statistically significant differences in salutogenic functionality between individuals differing in age, with a practical significance level of small to medium;
- Significant differences in salutogenic functionality due to time of onset of deafness, with a practical significance level of small to medium;
- Significant differences in salutogenic functionality between respondents who were exposed to mainstream education during primary school and those who attended primary schools for the hearing-impaired, with a practical significance level of small to medium;
- Significant differences in salutogenic functionality in terms of hearing status of parent, with a practical significance level of small to medium;
- Significant differences in salutogenic functionality between individuals with hearing spouses and those with hearing-impaired spouses, with a practical significance level of small to medium;
- Significant differences in salutogenic functionality between individuals with post-matric qualifications and those with matric and lower, with a practical significance level of small to medium; and,
- Significant differences in salutogenic functionality between individuals who were prelingually deafened, postlingually deafened and hard-of-hearing, with a practical significance level of small to medium.

## **6.2 LIMITATIONS**

In this section, limitations are noted in respect of the literature review and the empirical study. The author established that research information relating to this study was scarce. Due to this study not being a replication of a previous one, the author found research and studies relating to comparisons in terms of hearing-impaired individuals and salutogenic factors mostly unavailable, especially for the South African context. The studies which she did discover were based on qualitative

research. The findings of this study could therefore not be verified by means of quantitative comparison with similar studies, which might have proved useful in the interpretation of results. Furthermore, the following obstacles were encountered:

- The researcher experienced difficulty in obtaining a study population for the study. Because of this, one of the limitations of the present study is the fact that an availability sampling method has been employed rather than a randomised group design method, which implies that the findings cannot be generalised but pertain only to the population investigated in the study.
- The sample is very small and not representative of the hearing-impaired population and its sub-groups. Only a very small percentage of the total South African hearing-impaired population could be tapped, owing to the fact that written questionnaires can be difficult for hearing-impaired people to read and understand as a result of the weak literacy levels found in general in the hearing-impaired population (Dr C. Storbeck, personal communication, 10 June 2007). The questionnaire consisted of “deaf-unfriendly” language, but the researcher did not want to influence and distort the reliability and validity of the questionnaires and therefore did not adapt them. Therefore, this study mainly focused on hearing-impaired individuals who could read and write in English or Afrikaans as the historically prevalent business languages. It is acceptable to use questionnaires prepared for hearing people as long as the subject is able to read and has made acceptable progress in a school programme by reaching the upper elementary grades (Porter & Porter, 1969) and all respondents in this study had attained at least a South African Grade 10 (Standard 8) level of education. Furthermore, owing to time and resource constraints, it was not possible to utilise interpreters. However, this might also have influenced the study due to interpreter bias.
- The reliability of the measuring instruments could not be determined for this study due to the small sample size. This can further limit the generalisation of the findings to the broader population of hearing-impaired individuals.
- When conducting inter-group comparisons, only limited statistical analysis could be done in terms of age of acquired onset of hearing-impairment. The descriptive statistics show that total years of hearing-impairment ranged between 16 and 73 years, which makes analysis of hearing-impairment at a

young age a futile exercise in this sample. Also, only one respondent became hearing impaired after reaching school-going age, which also hampers analysis of hearing-impairment obtained before or after school-going age. In further studies investigation is necessary with regards to the impact of this on salutogenic functionality.

- The LCI was translated into Afrikaans, because such a version did not exist. The other two scales had Afrikaans versions that had been utilised in previous research studies. The translation was done owing to language issues experienced by the hearing-impaired individuals, and may therefore have had an impact on the validity and reliability of the results generated from the LCI. More Afrikaans questionnaires were completed than English ones. Of the 63 participants, 52 completed the Afrikaans and 11 completed the English versions of the questionnaires.
- In terms of the interpretation of the results, there are currently no clear guidelines in existence for the measures of salutogenic strengths in either national or international literature. No clinical cut-off points exist on the instruments utilised and the assumptions made remain somewhat arbitrary. Therefore, above-average achievement was utilised as an indication of the presence of higher levels of salutogenic strengths and below-average achievement was seen as an indication of less presence on the different constructs.
- The use of only self-report data can be considered as another limitation of the present study. This might have the effect of artificially inflated ratings on the salutogenic scales and questionnaires owing to the Hawthorne effect. It is possible that more objective indicators of salutogenesis and its constructs could yield different results, and therefore a combination of self-report measures and other psychological indicators such as observer ratings and other behavioural feedback methods might, in addition, have provided more accurate results.

### **6.3 RECOMMENDATIONS**

More research is needed, with regards to salutogenic functionality in terms of Locus of Control, Sense of Coherence and Self-Efficacy that are linked with disability and, more specifically, hearing-impairment. In particular, in the South African

environment, with its unique challenges as a developing country and its wide range in terms of literacy levels and skill shortages, research on the impact of positive psychology and the salutogenic constructs should be further undertaken.

Lastly, more information is necessary regarding the salutogenic differences in the different subgroups found in the hearing-impaired population in terms of gender, age, deafness category, onset of deafness, influence of parents' and spouses' hearing conditions and the influence of educational settings. This includes more in-depth research to make data available with respect to the salutogenic differences in the different subgroups found in the hearing-impaired population (such as differences in those embracing Deaf culture and those choosing hearing culture), as well as quantitative data regarding salutogenic functionality and its influence in terms of the factors mentioned in the above paragraph, in order to understand the specific challenges of the wide variety of differences within the hearing-impaired community.

This study could also benefit from research where more data is collected from a representative sample from the hearing-impaired population, which can be parametrically analysed to ascertain the direction of significance on results (therefore performing one-tailed tests). Further research could also focus on how to develop the salutogenic aspects in hearing impaired individuals.

A definite recommendation would be to design the questionnaires in a format that hearing-impaired individuals could better understand, such as producing a video in Sign Language and providing answer sheets for the respondents to fill in. It could also be beneficial to compare the results of the questionnaires when administered in the different languages (sign language and written language) to ascertain whether there is a difference. It would also be most useful if the outcome of a representative sample of the hearing-impaired population could be compared to a related sample of hearing counterparts, or if the differences in the hearing impaired population between hard of hearing, deaf and Deaf sub-cultures could be compared.

#### **6.4 CHAPTER SUMMARY**

This chapter concludes this study. Throughout the research process an effort was made to keep the integrity of the data and work within the boundaries of ethical

practice. In this research study psychological strengths were explored in relation to their manifestation in hearing-impaired adults. Quantitative statistical methods were utilised to analyse the data and interpretations. The outcome of the study indicated that a variety of variables relating to hearing-impairment have an impact on salutogenic functionality of different sub-groups within the hearing-impaired sample obtained, and an indication of recommendations for further research was given.

## REFERENCES

Anderson, G.B. & Miller, K.R. (2004). In their own words: researching stories about the lives of deaf people of color. *Multicultural Perspectives*, 6 (2), 28-33.

Andrews, J.F., Leigh, I.W. & Weiner, M.T. (2004). *Deaf people: evolving perspectives from psychology, education, and sociology*. Boston, MA: Allyn and Bacon.

Antonovsky, A. (1987). *Unraveling the mystery of health: how people manage stress and stay well*. San Francisco, CA: Jossey-Bass.

Antonovsky, A. (1993). The structure and properties of the sense of coherence scale. *Social Science & Medicine*, 36 (6), 725-733.

Antonovsky, A. (2002). Unraveling the mystery of health: how people manage stress and stay well. In D.F. Marks (Ed.), *The Health Psychology Reader* (pp. 127-139). London, UK: Sage Publications.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review*, 84 (2), 191-215.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American Psychologist*, 37 (2), 122-147.

Bandura, A. (1997). *Self-efficacy*. New York, NY: Freeman.

Barnes, F.G. (1929). *The deaf of the Empire*. National College of Teachers of the Deaf. Proceedings of the 11<sup>th</sup> Conference, 4-35. Brighton, UK: Gillett.

Bat-Chava, Y. (1993). Antecedents of self-esteem in deaf people: a meta-analytic review. *Rehabilitation Psychology*, 38, 221-234.

Bat-Chava, Y. (2000). Diversity of deaf identities. *American Annals of the Deaf*, 145 (5), 420-428.

Baylis, N. (2004). Teaching positive psychology. In P.A. Linley and S. Joseph (Eds), *Positive psychology in practice* (pp. 210-217). Hoboken, NJ: John Wiley & Sons.

Bono, J.E. & Judge, T.A. (2003). Core self-evaluations: A review of the trait and its role in job satisfaction and job performance. *European Journal of Personality*, 17, 5-18.

Breed, M. (1997). *Bepalende persoonlikheidstrekke in die salutogenetiese paradigma* [Determining personality characteristics in the salutogenic paradigm]. Unpublished doctoral thesis. University of South Africa, Pretoria.

Breed, M., Cilliers, F. & Visser, D. (2006). The factor structure of six salutogenic constructs. *SA Journal of Industrial Psychology*, 32 (1), 74-87.

Brill, R.G. (1978). *Mainstreaming the prelingually deaf child: a study of the status of prelingually deaf children in various patterns of mainstreamed education for hearing impaired children*. Washington D.C.: Gallaudet College Press.

Buga, H. (2006). *Reflections on disability: perspectives on South Africa, India and the United States of America*. Unpublished Masters dissertation. School for Advanced Legal Studies, University of Cape Town.

Burke, R.J. (1999). Disability and women's work experiences: an exploratory study. *The International Journal of Sociology and Social Policy*, 19 (12), 21-33.

Carr, A. (2004). *Positive psychology: the science of happiness and human strengths*. London, UK: Brunner-Routledge.

Christiansen, J. (1994). Deaf people and the world of work: a case study of deaf printers in Washington DC. In C.J. Erting, R.C. Johnson, D.L. Smith & B.D. Snider (Eds.), *The deaf way* (pp. 260-267). Washington DC: Gallaudet University Press.

Christiansen, J. & Barnartt, S. (1995). *Deaf president now! The revolution at Gallaudet University*. Washington DC: Gallaudet University Press.

Code of Good Practice on the Employment of People with Disabilities, No. 1345 (2002). *Official Gazette* 446 (23702).

Coetzee, S.C. (2003). *Dispositional factors, experiences of team members and effectiveness in self-managing work teams*. Unpublished doctoral dissertation. Potchefstroomse Universiteit vir Christelike Hoër Ondewys.

Coetzee, S.C. & Cilliers, F. (2001). Psychofortology: explaining coping behaviour in organisations. *The Industrial-Organizational Psychologist*, 38 (4), 62-68.

Coetzee, S.C. & Rothmann, S. (1999). Die verband tussen koherensiesin en werkstevredenheid by bestuurders [The relationship between sense of coherence and job satisfaction in managers]. *Journal of Industrial Psychology*, 25 (3), 31-38.

Colbridge, J.D. (2000). Defining disability under the Americans with Disabilities Act. *FBI Law Enforcement Bulletin*, 69 (10), 28-32.

Community Agency for Social Enquiry (CASE). (1997). *The National Baseline Disability Survey*. Retrieved on 15 July 2006 from the World Wide Web: <http://www.doh.gov.za/facts/>

Compensation for Occupational Injuries and Diseases Act, No 130 (1993). *Government Gazette* 340 (15158).

Connor, M.J. (1995). Locus of control. *Therapeutic Care and Education*, 4 (1), 16-26.

Corsini, R.J. (1999). *Dictionary of psychology*. Philadelphia, PA: Brunner/Mazel

Deaf SA. (2006). *Defining Deafness*. Retrieved on 10 July 2006 from the World Wide Web: <http://www.deafnet.co.za>.

Denmark, J.C. (1994). *Deafness and mental health*. Guildford, UK: Biddles Ltd.

Department of Labour (Undated). *Technical assistance guidelines on the employment of people with disabilities*. Pretoria: Department of Labour.

Depoy, E. & Gilson, S. F. (2004). *Rethinking disability: Principles for professional and social change*. Belmont, CA: Thomson Learning.

Disabled People of South Africa. (2000). *A pocket guide on disability equity*. DPSA Parliamentary Office. Retrieved on 13 July 2007 from the World Wide Web: <http://www.dpsa.org.za>.

Disability Social History Project. (Undated). *Disability history timeline*. Retrieved on 15 July 2007 from the World Wide Web: [http://www.disabilityhistory.org/timeline\\_new.html](http://www.disabilityhistory.org/timeline_new.html).

Dixon, T.L. (1987). Addiction among the hearing-impaired. *EAP-Digest*. January/February, 41-44.

Douglas, S.P. & Craig, C.S. (2007). Collaborative and iterative translation: an alternative approach to instrument translation. *Journal of International Marketing*, 15 (1), 30-43.

Durrheim, K. (1999). Quantitative analysis. In M. Terre Blanche & K. Durrheim (Eds.), *Research in practice* (pp. 96-122). Cape Town: UCT Press.

Employment Equity Act, No. 55 (1998). *Government Gazette*, 400 (19370).

- Field, A. (2000). *Discovering statistics using SPSS for Windows: advanced techniques for beginners*. London, UK: Sage.
- Foster, S. & MacLeod, J. (2003). Deaf people at work: assessment of communication among deaf and hearing persons in work settings. *International Journal of Audiology*, 42, 128-139.
- Frazee, V. (1996). Focusing your recruiting efforts on disabled workers. *Personnel Journal*, (Fall 1996), 10-12.
- Frenz, A.W., Carey, M.P. & Jorgensen, R.S. (1993). Psychometric evaluation of Antonovsky's sense of coherence scale. *Psychological Assessment*, 5, 145-153.
- Ganyane, E.M. (2005). *Gender difference in salutogenic functioning in military deployment*. Unpublished MAdmin dissertation. University of South Africa, Pretoria.
- Garson, G.D. (2006). *Resampling*. Retrieved on 27 November 2006 from the World Wide Web: <http://www2.chass.ncsu.edu/garson/pa765/resamp.htm>
- Gist, M.E. (1987). 'Self-efficacy': Implications for organizational behavior and human resource management. *Academy of Management Review*, 12, 472-485.
- Goleman, D. (1995). *Emotional intelligence*. New York, NY: Bantam.
- Health Professions Act, No 56 (1974). *Government Gazette* 717 (29079).
- Health Systems Trust. (Undated). *Prevalence of disability (%)*. Retrieved on 13 July 2007 from the World Wide Web: <http://www.hst.org.za/healthstats/48/data> .
- Holte, M.C. & Dinis, M.C. (2001). Self-esteem enhancement in deaf and hearing women; success stories. *American Annals of the Deaf* 146 (4), 348-354.
- Howell, D.C. (1995). *Fundamental statistics for the behaviour sciences (4<sup>th</sup> ed.)*. Pacific Grove, CA: Duxbury.

Howell, D.C. (1999). *Fundamental statistics for the behaviour sciences (5<sup>th</sup> ed.)*. Pacific Grove, CA: Duxbury.

International Labour Organisation (2002). *Managing disability in the workplace: ILO code of practice*. Geneva, Switzerland: International Labour Office.

Jacelon, C.S. (1997). The trait and process of resilience. *Journal of Advanced Nursing, 25*, 123-129.

Jago, K. (Undated). *The Disability Rights Movement: its development in South Africa*. Retrieved on 27 November 2004 from the World Wide Web: <http://www.independentliving.org/toolsforpower/tools6.html>.

Jankowski, K.A. (1997). *Deaf empowerment: emergence, struggle and rhetoric*. Washington DC: Gallaudet University Press.

Jones, C. (1991). A deaf psychologist. In G. Taylor & J. Bishop (Eds.), *Being deaf: The experience of deafness* (pp. 143-146). London, UK: Pinter Publishers.

Jorgensen, I.S. & Nafstad, H.I. (2004). Positive psychology: historical, philosophical and epistemological perspectives. In P.A. Linley and S. Joseph (Eds.), *Positive psychology in practice* (pp. 15-34). Hoboken, NJ: John Wiley & Sons Inc.

Judge, T.A., Erez, A., Bono, J.E. & Thoresen, C.J. (2002). Do the traits of self-esteem, neuroticism, locus of control, and generalized self-efficacy indicate a common core construct? *Journal of Personality and Social Psychology, 83*, 693-710.

Kaland, M. & Salvatore, K. (2002). *The psychology of hearing loss*. Retrieved on 13 March 2006 from the World Wide Web: [www.asha.org/about/publications/leader-online/archives/2002/q1/020319d.htm](http://www.asha.org/about/publications/leader-online/archives/2002/q1/020319d.htm) .

Kalimo, R. & Vuori, J. (1990). Work and sense of coherence: resources of competence and life satisfaction. *Behavioural Medicine*, 16, 76-89.

Kiyaga, N.B. & Moores, D.F. (2003). Deafness in sub-Saharan Africa. *American Annals of the Deaf*, 148 (1), 18-24.

Kossuth, S.P. (1998). *Team building and salutogenic orientations contextualised in a performance model*. Unpublished Doctoral Thesis. University of South Africa, Pretoria.

Labour Relations Act, No. 66 (1995). *Government Gazette* 366 (16861).

Lad, S. & James, L. (1991). Raising the profile. In G. Taylor & J. Bishop (Eds.), *Being deaf: the experience of deafness* (pp. 156-160). London, UK: Pinter Publishers.

Laroche, C., Garcia, L.J. & Barrette, J. (2000). Perceptions by persons with hearing impairment, audiologists, and employers of the obstacles to work integration. *Journal of the Academy of Rehabilitative Audiology*, 33, 63-90.

Lefcourt, H. (1982). *Locus of Control: Current trends in theory and research* (2<sup>nd</sup> ed.) Hillsdale, NJ: Erlbaum Associates.

Lennings, C.J. (1994). An evaluation of a generalized self-efficacy. *Personality and Individual Differences*, 16 (5), 745-750

Lightsey, O.R. Jr., M., Ervin, A., Henderson, D., & Yee, C. (2006). Generalized Self-Efficacy, Self-Esteem, and Negative Affect. *Canadian Journal of Behavioural Science*. Retrieved on 26 June 2008 from the World Wide Web:  
[http://findarticles.com/p/articles/mi\\_qa3717/is\\_200601/ai\\_n17175046/pg\\_4](http://findarticles.com/p/articles/mi_qa3717/is_200601/ai_n17175046/pg_4).

Livingstone, J. (2006). Insights from an African history of disability. *Radical History Review*, 94, 111-126.

Luckner, J.L. & Stewart, J. (2003). Self-assessments and other perceptions of successful adults who are deaf: an initial investigation. *American Annals of the Deaf*, 148 (3), 243-250.

Lysons, K. (1996). *Understanding hearing loss*. Bristol, PA: Cromwell Press.

MacLeod-Gallinger, J.E. (1992). The career status of deaf women: a comparative look. *American Annals of the Deaf*, 137, 315-325.

McBurney, D.H. (1994). *Research Methods*. Chichester, UK: Wiley.

McKenna, L. (1993). Some psychological aspects of deafness. In J. Ballantyne, M.C. Martin & A. Martin (Eds.), *Deafness* (5<sup>th</sup> ed.) (pp. 237-246). London, UK: Whurr Publishers.

Miles, M. (2004). Locating deaf people, gesture and sign in African histories, 1450s-1950s. *Disability & Society*, 19 (5), 531-545.

Miller, E.D. & Harvey, J.H. (1998). Toward a psychology of loss. *Psychological Science*, 9, 429-434.

Miller, E.D. & Harvey, J.H. (2001). The interface of positive psychology with a psychology of loss: a brave new world? *American Journal of Psychotherapy*, 55 (3), 313-322.

Moores, D. (1998). Denial of success. *American Annals of the Deaf*, 143 (5), 371-372.

Moss, R.H. (2002). Context and coping: toward a unifying conceptual framework. In D.F. Marks (Ed.), *The Health Psychology Reader* (pp. 167-185). London, UK: Sage Publications.

Mouton, J. & Marais, H.C. (1996). *Basic concepts in the methodology of the social sciences*. Pretoria: Human Sciences Research Council.

Mthembu, E.M. (1994). *The Black deaf person in his work situation*. Unpublished Masters thesis. University of South Africa, Pretoria.

Naude, J.L.P. (2004). *Psychological strengths and job satisfaction: a study of agricultural representatives*. Unpublished Masters dissertation. Potchefstroomse Universiteit vir Christelike Hoër Onderwys.

Naude, J.L.P. & Rothmann, S. (2000). Psychological strengths and job satisfaction of agriculture representatives. *Management Dynamics*, 9 (4), 57-82.

Nikolarazi, M. & Makri, M. (2004). Deaf and hearing individuals' beliefs about the capabilities of deaf people. *American Annals of the Deaf*, 149 (5), 404-414.

Norris, A.G. (1969). Conference notes. In R.L. Jones (Ed.), *The deaf man and the world: work, love, worship, play*. Proceedings of a national forum II, February 19-22, 1969 (pp. 21-32). New Orleans, LA: Council of Organizations Serving the Deaf.

Nowell, R.C. & Marschark, M. (Eds.). (1994). *Understanding deafness and the rehabilitation process*. Boston, MA: Allyn & Bacon.

Nunnally, J.C. & Bernstein, I.H. (1994). *Psychometric theory* (3<sup>rd</sup> ed.). New York, NY: McGraw-Hill.

Padden, C. & Humphries, T. (1988). *Deaf in America: voices from a culture*. Cambridge, MA; Havard University Press.

Phares, E.J. (1976). *Locus of control in personality*. Morris Town, NJ: General Learning Press.

Philpott, S.C. (1995). *Amawoti: responding to the needs and rights of people with disabilities*. Durban: University of Natal Press.

Pienaar, I.J. (1994). *Maatskaplike werk met dowes in Suid Afrika* [Social work with the deaf in South Africa]. Unpublished Masters dissertation. University of South Africa, Pretoria.

Plug, C., Louw, D.A.P., Gouws, L.A. & Meyer, W.F. (1997). *Verklarende en vertalende sielkundewoordeboek* [Illustrative and translating psychology dictionary]. Johannesburg: Heinemann.

Popovich, P.M., Scherbaum, C.A., & Scherbaum, K.L. (2003). The assessment of attitudes toward individuals with disabilities in the workplace. *Journal of Psychology*, 137 (2), 163-178.

Porter, R.B. & Porter, A.C. (1969). Assessment and evaluation: psychological evaluation. In J. Griffiths (Ed.), *Persons with hearing loss* (pp. 84-108). Springfield, IL: Charles C Thomas.

Pretorius, M. & Rothmann, S. (2001). Die verband tussen koherensiesin, selfdoetreffendheid, lokus van beheer en werkstevredenheid [The relationship between sense of coherence, self-efficacy, locus of control and job satisfaction]. *Journal of Industrial Psychology*, 27 (1), 25-31.

Promotion of Equality and Prevention of Unfair Discrimination Act, No. 4 (2000). *Government Gazette* 416 (20876).

Punch, R., Hyde, M. & Creed, P.A. (2004). Issues in the school-to-work transition of hard-of-hearing adolescents. *American Annals of the Deaf*, 149 (1), 28-38.

Raifman, L.J. & Vernon, M. (1996). Important implications for psychologists of the Americans with Disabilities Act: case in point, the patient who is deaf. *Professional Psychology: Research and Practice*, 27 (4), 372-377.

Road Accident Fund Act, No. 56 (1996). *Government Gazette* (17240).

Rogers, S., Muir, K. & Evenson, C.R. (2003). Signs of resilience: assets that support deaf adults' success in bridging the deaf and hearing worlds. *American Annals of the Deaf*, 148 (3), 222-232.

Ross, M., Brackett, D. & Maxon, A.B. (1991). Assessment and management of mainstreamed hearing-impaired children: principles and practices. Austin, TX: Pro-Ed Inc.

Rothmann, S. & Agathagelou, A.M. (2000). Die verband tussen lokus van beheer en werkstevredenheid by senior polisiepersoneel [The relationship between locus of control and job satisfaction amongst senior police personnel]. *Journal of Industrial Psychology*, 26 (2), 20-26.

Rotter, J. (1966). Generalised expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80, 1-28.

Schepers, J.M. (1995). *Die lokus van beheer-vraelys: konstruksie en evaluering van 'n nuwe meetinstrument* [The locus of control questionnaire: construction and evaluation of a new measuring instrument]. Rand Afrikaans University: Johannesburg.

Schirmer, B.R. (2001). *Psychological, social and education dimensions of deafness*. Boston, MA: Allyn & Bacon.

Seligman, M.E.P. (2002). *Authentic happiness: using the new positive psychology to realize your potential for lasting fulfilment*. New York, NY: Free Press.

Sherer, M. & Maddux, J. (1982). The Self-Efficacy Scale: construction and validation. *Psychological Reports*, 51, 663 – 671.

Silo, J. (1991). A deaf teacher: A personal odyssey. In G. Taylor & J. Bishop (Eds.), *Being deaf: The experience of deafness* (pp. 147-155). London, UK: Pinter Publishers.

Sivanathan, N., Arnold, K.A., Turner, N. and Barling, J. (2004). Leading well: transformational leadership and well-being. In P.A. Linley and S. Joseph (Eds), *Positive psychology in practice* (pp. 241-255). Hoboken, NJ: John Wiley & Sons.

Skills Development Act, No. 97 (1998). *Government Gazette* 401 (19420).

Social Assistance Act, No. 59 (1992). *Government Gazette* 323 (13961).

South African Schools Act, No. 84 (1996). *Government Gazette* (1867).

Sprent, P. & Smeeton, N.C. (2001). *Applied nonparametric statistical methods* (3<sup>rd</sup> ed.). London, UK: Chapman & Hall/CRC

Stanley, M.A., Novy, D.M., Hopko, D.R., Beck, J.G., Averill, P.M. & Swann, A.C. (2002). Measures of Self-Efficacy and Optimism in Older Adults with Generalized Anxiety. *Assessment*, 9 (1), 70-81.

Statistical Package for the Social Sciences 15.0 [Computer software]. (2006). Chicago, IL: SPSS Inc.

Statistics South Africa. (2005). *Census 2001: Prevalence of disability in South Africa*. Pretoria: Statistics South Africa.

Stiker, H.J. (2000). *A history of disability (corporealities)*. Ann Arbor, MI: University of Michigan Press.

Stone, H.E. (1987). Adjustment to post-lingual hearing loss. In J.G. Kyle (Ed.), *Adjustment to acquired hearing loss: analysis change and learning* (pp. 113-139). Bristol, UK: Centre for Deaf Studies.

Strong, C. & Shaver, J. (1991). Modifying attitudes toward persons with hearing impairments: a comprehensive review of the research. *American Annals of the Deaf*, 136, 252-260.

Strümpfer, D.J.W. (1995). The origins of health and strength: from 'salutogenesis' to 'fortigenesis'. *South African Journal of Psychology*, 25 (2), 81-89.

Strümpfer, D.J.W. & Wissing, M.P. (1998). *Review of South African data on the sense of coherence scales as a measure of fortigenesis and salutogenesis*. Paper presented at the annual congress of the Psychological Society of South Africa. Cape Town, South Africa.

Thomas, A.J. (1984). *Acquired hearing loss: psychological and psychosocial implications*. London, UK: Academic Press.

Tipton, R.M. & Worthington, E.L. (1984). The measurement of generalized self-efficacy: a study of construct validity. *Journal of Personality Assessment*, 48 (5), 545-548.

Toni, M. (2003). *Employing the disabled: guidelines*. Retrieved on 11 November 2004 from the World Wide Web:  
[http://www.southafrica.info/public\\_services/citizens/your\\_rights/disbaled-employment.htm](http://www.southafrica.info/public_services/citizens/your_rights/disbaled-employment.htm).

Tshabalala-Msimang, M. (2004). *Monitoring and evaluation media briefings*. Retrieved on 15 June 2006 from the World Wide Web:  
<http://www.info.gov.za/speeches/2004/04102716451001.htm>.

Twersky-Glasner, A. (2005). *A hearing offender who can't hear*. Unpublished Doctoral dissertation. Department of Criminal Justice, City University of New York.

Venter, P.A. (1992). *Het die dowe 'n plek as werknemer binne die vervaardigingsbedryf? Soos gesien vanuit die praktyk* [Does the deaf person have a place as employee in the production industry? As seen in practice]. Paper presented at the 21 April Deaf Information Day, Bellville.

Vincent, J. & Houlihan, D. (2006). Brief report: measuring self-efficacy with female adolescents who are conduct disordered: validation of the program efficacy scale. *Behavioral Interventions*, 6 (4), 303-310.

Wang, M.C. & Heartel, G.D. (1995). Educational resilience. In M.C. Wang, M.C. Reynolds & H. J. Walberg (Eds.), *Handbook of special and remedial education: research and practice* (2<sup>nd</sup> ed.) (pp. 159-198). New York, NY: Elsevier Science.

Wang, P.P., Badley, E.M. & Gignac, M.A. (2004). Perceived need for workplace accommodation and labor-force participation in Canadian adults with activity limitations. *American Journal of Public Health*, 94 (9), 1515-1518.

Wheeler-Scruggs, K. (2002). Assessing the employment and independence of people who are deaf and low functioning. *American Annals of the Deaf*, 147 (4), 11-17.

Williams, F. (1992). *Reasoning with statistics: how to read qualitative research* (4<sup>th</sup> ed.). Fort Worth, TX: Harcourt Brace Jovanovich.

Wissing, M.P. & van Eeden, C. (1997). *Psychological well-being: a fortogenic conceptualization and empirical clarification*. Paper presented at the 3<sup>rd</sup> Annual Congress of the Psychological Society of South Africa. Durban, South Africa.

World Health Organization (2006). *Disability and rehabilitation WHO action plan 2006-2011*. Retrieved on 03 December 2006 from the World Wide Web: [www.who.int/disabilities/publications/dar\\_action\\_plan\\_2006to2011.pdf](http://www.who.int/disabilities/publications/dar_action_plan_2006to2011.pdf).

Yachnik, M. (1986). Self-esteem in adolescents. *American Annals of the Deaf*, 131, 305-310.

## APPENDIX A: QUESTIONNAIRE

Dear Participant –

### Background to study

My name is Tessa de Wet. I am a Masters student in Industrial and Organisational Psychology at the University of South Africa (UNISA). I am asking you for help with my study. I would like to learn more about the needs and characteristics of Deaf people. This is being done by asking people who are deaf or hard of hearing to complete a variety of questionnaires.

### Confidentiality

All information given by participants will be handled in the strictest confidence. No names will be made available in the final document. You will not be personally identified in any reports on this study. No results will be reported if and/or when the individual would be identifiable in any way. As a participant, you are at any time welcome to withdraw from the study. There will be no negative consequences if you do not wish to be part of the study.

### Consent

Your participation in this project is voluntary. By completing this form and the attached questionnaires, you state that you willingly participate in this study, and grant consent that this data may be used for statistical analysis in this study. The data will only be used in conjunction with other data and will not reflect your name – it will remain completely confidential.

### The Process

Attached to this letter are four other documents.

- **Biographical Information Form**
- **Orientation of Life Questionnaire**
- **Self-Efficacy Scale**
- **Locus of Control Inventory**

Please complete these forms as honestly and comprehensively as possible. The completion of the forms should take approximately one hour of your time, depending on your work speed. As said before, the information will be handled as confidential, and will not be distributed or discussed with any other individual. You can complete it electronically by marking or typing in the required spaces, and can then email it back to me at [tessa.dewet@webmail.co.za](mailto:tessa.dewet@webmail.co.za). Alternatively you can fill it in by hand and fax it through to **086 687 9859**.

### Further Referrals

I would really appreciate it if you could assist me in finding more participants for this study. People who would be eligible to participate must be deaf or hard of hearing and be 18 years of age or older. Please contact me with their email address or cell phone number, so that I can make contact with them.

### Conclusion

If you have any further questions, please do not hesitate to contact me on my email address [tessa.dewet@webmail.co.za](mailto:tessa.dewet@webmail.co.za), or sms me on 083 292 3192. Alternatively, if you have any questions regarding my conduct or the study itself, you are welcome to contact my Study Supervisor, Hartmut von der Ohe, at [vdoheh@unisa.ac.za](mailto:vdoheh@unisa.ac.za).

Once again a big thank you for your willingness to participate.

Kind regards,

**Tessa de Wet**

Industrial Psychology Student (Std. no. 3060-412-5; UNISA)

# Biographical Information Form

The purpose of this form is to supply the necessary information to understand the background and history of Deaf and Hard-of-Hearing people.

## What to do

Each question in the following form will prompt you for certain information.

- Where blocks are provided, please mark with an **X** in ONE most appropriate block, unless it is stated to mark ALL THAT APPLY.
- Where lines have been provided, please give details relating to the information asked.

Once you have finished the form, attach it to an email and send it back to me at [tessa.dewet@webmail.co.za](mailto:tessa.dewet@webmail.co.za).

## Please complete all the following pages.

### SECTION 1: PERSONAL DETAILS

Gender

<input type="checkbox"/>	Male
<input type="checkbox"/>	Female

Age (today):

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Main language used at home:

<input type="checkbox"/>	Afrikaans
<input type="checkbox"/>	American Sign Language (ASL)
<input type="checkbox"/>	English
<input type="checkbox"/>	IsiNdebele
<input type="checkbox"/>	IsiXhosa
<input type="checkbox"/>	IsiZulu
<input type="checkbox"/>	Northern Sotho
<input type="checkbox"/>	Sesotho
<input type="checkbox"/>	Setswana
<input type="checkbox"/>	SiSwati
<input type="checkbox"/>	South African Sign Language (SASL)
<input type="checkbox"/>	Tshivenda
<input type="checkbox"/>	Xitsonga
<input type="checkbox"/>	Other (please specify):

---

### SECTION 2: DETAILS OF DEAFNESS

In what deafness category do you fall?

<input type="checkbox"/>	<b>Hard of hearing:</b> refers to the condition where a person has minimum to moderate hearing loss – whose primary communication is the spoken language and who could in most circumstances benefit from a hearing aid.
<input type="checkbox"/>	<b>Prelingual/congenital deafness:</b> refers to a condition where the person was born deaf or became deaf before the acquisition of the language of the immediate family. Such a person has a moderate-severe to profound hearing loss, belongs to the Deaf culture and uses Sign Language as the prime mode of communication.
<input type="checkbox"/>	<b>Post lingual/deafened:</b> This refers to a condition where a person acquired moderately severe to profound hearing loss after the acquisition of a spoken language and who is dependent upon the visual sense for additional information for the purposes of spoken communication.

Onset of hearing loss?

<input type="checkbox"/>	Acquired. If so, please give age when acquired _____
<input type="checkbox"/>	At birth
<input type="checkbox"/>	Unknown

Please proceed to next page...

**SECTION 3: FAMILY DETAILS**

Hearing status of parents

- Both parents Deaf
  - Both parents Hard-of-hearing
  - Both parents Hearing
  - One parent deaf
  - One parent hard-of-hearing
  - Other (please specify):
- 

Hearing status of spouse/partner

- No spouse/partner
  - Deaf
  - Hard-of-hearing
  - Hearing
  - Other (please specify):
- 

**SECTION 4: EDUCATIONAL DETAILS**

Highest qualification passed (e.g. Standard 6, Grade 5, or BCom etc):

---

**Primary School**

What type of primary school did you attend?

- School for deaf learners
  - School for hearing learners
  - Mixed school (both hearing and deaf learners)
  - Other (please specify):
- 

**Secondary School**

What type of secondary school did you attend?

- School for deaf learners
  - School for hearing learners
  - Mixed school (both hearing and deaf learners)
  - Other (please specify):
- 

What type of support did you receive during your schooling years? (Mark all that apply).

- Hearing device ( e.g. cochlear implant or hearing aids)
  - Hearing aids checked regularly
  - Regular hearing tests
  - Sign
  - Lip-reading
  - Spoken language
  - Production of sound
  - Other (please specify):
- 

**SECTION 5: CURRENT JOB DETAILS**

Are you currently employed?

- Yes
  - No
- 

If yes, what do you do (what is your job)?

---

Size of the organisation that you work for:

- 0-50 employees
- 51 – 200 employees
- 201 – 1000 employees
- 1001 or more employees

**Main** language used at work:

- Afrikaans
- American Sign Language (ASL)
- English
- IsiNdebele
- IsiXhosa
- IsiZulu
- Northern Sotho
- Sesotho
- Setswana
- SiSwati
- South African Sign Language (SASL)
- Tshivenda

<input type="checkbox"/>	Xitsonga
<input type="checkbox"/>	Other (please specify):

---

Medium of communication utilised at work (mark all that apply):

<input type="checkbox"/>	Email
<input type="checkbox"/>	Telephone (TTY)
<input type="checkbox"/>	Interpreter
<input type="checkbox"/>	Sign language
<input type="checkbox"/>	Lip-reading
<input type="checkbox"/>	Writing
<input type="checkbox"/>	Other (please specify):

---

How many years have you been in this job?

How many years were you employed previous to this job?

How many jobs have you had since you started working (including your current job)?

How many years were you unemployed (from the time that you finished full-time schooling until now)?

#### **SECTION 8: OTHER INFORMATION**

If there are any other comments or information that you would like to add, please feel free to do so in the space provided below.

Thank you for completing this form!

I appreciate your willingness to participate in this research. If you have any other ideas or suggestions that were prompted by my questions, please do not hesitate to contact me. If you would like more information regarding this study and questionnaire, please feel free to contact my study leader, Hartmut von der Ohe at [vdoheh@unisa.ac.za](mailto:vdoheh@unisa.ac.za), or myself, Tessa de Wet, at [tessa.dewet@webmail.co.za](mailto:tessa.dewet@webmail.co.za)

**Please proceed to the attached questionnaires.**

## SELF-EFFICACY SCALE

### INSTRUCTIONS

The following statements concerns attitudes and feelings you might have about yourself and your performance on a variety of tasks. You are asked to indicate the extent to which you agree or disagree with each of these statements by making a mark in the space at the one end of the scale or the other if you completely agree or completely disagree. Place a mark in the space second from the end if you somewhat agree or somewhat disagree and place a mark in the space third from the end if you only slightly agree or slightly disagree. Place your mark in the middle of the scale if you neither agree nor disagree. Work quickly and give your first impression.

Please email the completed document back to me at [tessa.dewet@webmail.co.za](mailto:tessa.dewet@webmail.co.za) or fax it to 086 687 9859.

**Start here;**

**1. I find it extremely unpleasant to be afraid.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**2. I sometimes avoid difficult tasks.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**3. I am a very determined person.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**4. Once I set my mind to a task almost nothing can stop me.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**5. I have a lot of self-confidence.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**6. I am at my best when I am really challenged.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**7. I believe that it is shameful to give up something I started.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**8. I have more than the average amount of self-determination.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**9. Sometimes things just don't seem worth the effort.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**10. I would rather not try something that I'm not good at.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**11. I have more fears than most people.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**12. I find it difficult to take risks.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**13. People have a lot of problems but none they will not eventually be able to solve.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**14. I can succeed in almost any endeavour to which I set my mind.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**15. Nothing is impossible if I really put my mind to it.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**16. I feel I am better off to rely on myself for a solution when things are looking really bad.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
---------------------	------------	---------------------	--------------------------------	------------------------	---------------	------------------------

**17. When put to the test I would remain true to my ideals.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
---------------------	------------	---------------------	--------------------------------	------------------------	---------------	------------------------

**18. If a person believes in himself, he/she can make it in the world.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
---------------------	------------	---------------------	--------------------------------	------------------------	---------------	------------------------

**19. I feel that chances are very good that I can achieve my goals in life.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
---------------------	------------	---------------------	--------------------------------	------------------------	---------------	------------------------

**20. In general I agree that “if at first I do not succeed, I’ll try again “.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
---------------------	------------	---------------------	--------------------------------	------------------------	---------------	------------------------

**21. When I have difficulty getting what I want, I just try harder.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
---------------------	------------	---------------------	--------------------------------	------------------------	---------------	------------------------

**22. I excel at few things.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**23. I have often burned the midnight oil to finish a task before deadline.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**24. I have more willpower than most people.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**25. I become frustrated when I experience physical discomfort.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**26. Nothing is worth subjecting myself to pain for, if I can avoid it.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

**27. I would endure physical discomfort to complete a task because I just don't like to give up.**

1 Strongly agree	2 Agree	3 Slightly agree	4 Neither agree or disagree	5 Slightly disagree	6 Disagree	7 Strongly disagree
------------------------	------------	------------------------	--------------------------------------	---------------------------	---------------	---------------------------

Please email the completed document back to me at [tessa.dewet@webmail.co.za](mailto:tessa.dewet@webmail.co.za) or fax it to 086 687 9859.

# ORIENTATION OF LIFE QUESTIONNAIRE

## INSTRUCTIONS

Here is a series of 29 questions relating to various aspects of our lives. Each question has seven possible answers. Please mark the number that best expresses the extent to which the statement is applicable to you. Note that number 1 and 7 are the extreme answers, while number 4 means that both statements are equally applicable to you. If the words by 1 are right for you, mark 1; if the words by 7 are right for you, mark 7. If you feel differently, mark the number which best expresses your feeling. Please give only one answer to each question.

When you have completed the questionnaire, please email it back to me at [tessa.dewet@webmail.co.za](mailto:tessa.dewet@webmail.co.za) or fax it to 086 687 9859.

Start here:

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

Never have this feeling	1	2	3	4	5	6	7	Always have this feeling
-------------------------	---	---	---	---	---	---	---	--------------------------

**29. In the past, when you had to do something which depended upon co-operation with others, did you have the feeling that it:**

Surely wouldn't get done	1	2	3	4	5	6	7	Surely would get done
--------------------------	---	---	---	---	---	---	---	-----------------------

**30. Think of all the people with whom you come into contact daily, aside from the ones to whom you feel closest. How well do you know most of them?**

You feel that they are strangers	1	2	3	4	5	6	7	You know them very well
----------------------------------	---	---	---	---	---	---	---	-------------------------

**31. Do you have the feeling that you don't really care about what goes on around you?**

Very seldom or never	1	2	3	4	5	6	7	Very often
----------------------	---	---	---	---	---	---	---	------------

**32. Has it happened in the past that you were surprised by the behaviour of people whom you thought you know well?**

Never happened	1	2	3	4	5	6	7	Always happened
----------------	---	---	---	---	---	---	---	-----------------

**33. Has it happened that people whom you counted on disappointed you?**

Never happened	1	2	3	4	5	6	7	Always happened
----------------	---	---	---	---	---	---	---	-----------------

**34. Life is:**

Full of interest	1	2	3	4	5	6	7	Complete routine
------------------	---	---	---	---	---	---	---	------------------

**35. Until now your life has had:**

No clear goals or purpose	1	2	3	4	5	6	7	Very clear goals and purpose
---------------------------	---	---	---	---	---	---	---	------------------------------

**36. Do you have the feeling that you are being treated unfairly?**

Very often	1	2	3	4	5	6	7	Very seldom or never
------------	---	---	---	---	---	---	---	----------------------

**37. In the past ten (10) years your life has been:**

Full of changes without you knowing what will happen next	1	2	3	4	5	6	7	Completely consistent and clear
---	---	---	---	---	---	---	---	---------------------------------

**38. Most of the things you do in the future will probably be:**

Completely fascinating	1	2	3	4	5	6	7	Deadly boring
------------------------	---	---	---	---	---	---	---	---------------

**39. Do you have the feeling that you are in an unfamiliar situation and don't know what to do?**

Very often	1	2	3	4	5	6	7	Very seldom or never
------------	---	---	---	---	---	---	---	----------------------

**40. What best describes how you see life?**

One can always find a solution to painful things in life

1	2	3	4	5	6	7
---	---	---	---	---	---	---

There is no solution to painful things in life

**41. When you think about your life, you very often:**

Feel how good it is to be alive

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Ask yourself why you exist at all

**42. When you face a difficult problem, the choice of a solution is:**

Always confusing and hard to find

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Always completely clear

**43. Doing the things you do every day is:**

A source of deep pleasure and satisfaction

1	2	3	4	5	6	7
---	---	---	---	---	---	---

A sources of pain and boredom

**44. Your life in the future will probably be:**

Full of changes without you knowing what will happen next

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Completely consistent and clear

**45. When something unpleasant happened in the past, your tendency was:**

“To eat yourself up” about it

1	2	3	4	5	6	7
---	---	---	---	---	---	---

To say “OK, that’s that. I have to live with it”

**46. Do you have very mixed-up feelings and ideas?**

Very often	1	2	3	4	5	6	7	Very seldom or never
------------	---	---	---	---	---	---	---	----------------------

**47. When you do something that gives you a good feeling:**

It's certain that you'll go on feeling good	1	2	3	4	5	6	7	It's certain that something will happen to spoil the feeling
---	---	---	---	---	---	---	---	--

**48. Does it happen that you have feelings inside, that you would rather not feel?**

Very often	1	2	3	4	5	6	7	Very seldom or never
------------	---	---	---	---	---	---	---	----------------------

**49. You anticipate that your personal life in the future will be:**

Totally without meaning or purpose	1	2	3	4	5	6	7	Full of meaning and purpose
------------------------------------	---	---	---	---	---	---	---	-----------------------------

**50. Do you think that there will always be people whom you'll be able to count on in the future?**

You are certain there will be	1	2	3	4	5	6	7	You doubt there will always be
-------------------------------	---	---	---	---	---	---	---	--------------------------------

**51. Does it happen that you have the feeling that you don't know exactly what's about to happen?**

Very often	1	2	3	4	5	6	7	Very seldom or never
------------	---	---	---	---	---	---	---	----------------------

**52. Many people – even those with a strong character – sometimes feel like losers in certain situations. How often have you felt this way in the past?**

Never	1	2	3	4	5	6	7	Very often
-------	---	---	---	---	---	---	---	------------

**53. When something happened, have you generally found that:**

You overestimated or underestimated its importance

1	2	3	4	5	6	7
---	---	---	---	---	---	---

You saw it in the right proportion

**54. When you think of difficulties you are likely to face in important aspects of your life, do you have the feeling that:**

You will always succeed in overcoming the difficulties

1	2	3	4	5	6	7
---	---	---	---	---	---	---

You won't succeed in overcoming the difficulties

**55. How often do you have the feeling that there's little meaning in the things you do in your daily life?**

Very often

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Very seldom or never

**56. How often do you have feelings that you're not sure that you can keep under control?**

Very often

1	2	3	4	5	6	7
---	---	---	---	---	---	---

Very seldom or never

When you have completed the questionnaire, please email it back to me at [tessa.dewet@webmail.co.za](mailto:tessa.dewet@webmail.co.za) or fax it to 086 687 9859.

# LOCUS OF CONTROL INVENTORY

## INSTRUCTIONS

This questionnaire deals with a variety of factors and circumstances that to a greater or lesser extent may influence your behaviour. Remember there are no right or wrong answers to the questions. We merely want to find out how you feel about various matters.

Read each question carefully and then decide how it applies to you. Note the descriptions at the end-points of the seven-point scale which follows each question (item) and then decide where on the scale to place your response. Mark an X in the relevant space of the relevant scale.

### EXAMPLE:

#### 1. To what extent do you feel that you can assist with this project?

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

Do not ponder too long over any one item. Your first spontaneous reaction is normally the most reliable. Ensure that you answer all the questions.

Please email the inventory back to me at [tessa.dewet@webmail.co.za](mailto:tessa.dewet@webmail.co.za) or fax it to 086 687 9859.

Start here;

#### 57. To what extent do you doubt your own capabilities when your work is criticised?

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

#### 58. When there is a conflict situation, how hard do you try to win?

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very hard

#### 59. How readily would you tackle a problem if there is a chance that you might fail?

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very readily

**60. How strongly do you believe that people must have money in order to succeed, even if they work hard?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**61. How easily can you convince someone else of your viewpoint?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very easily

**62. How strongly do you agree that one must be able to understand oneself before one can have good relationships with other people?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**63. To what extent should a person decide on his own work routine?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**64. How readily do you accept responsibility for mistakes that appear in your work?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very readily

**65. How often do people obtain good positions simply because they know the right people?**

Hardly ever 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very often

**66. How strongly is success related to a person's ability and dedication?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**67. How strongly do you feel that once you have failed at something, it is almost impossible to achieve in it again?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**68. How strongly are you convinced that you are subject to the whims of fate?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**69. How sure are you that you will succeed when doing important tasks?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very sure

**70. How often do you get things going, rather than wait for things to happen?**

Hardly ever 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very often

**71. How often do you wait for other people to take charge, rather than taking charge yourself?**

Hardly ever 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very often

**72. How often do you decide on matters yourself, rather than waiting for others to take decisions on your behalf?**

Hardly ever 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very often

**73. To what extent do failures spur you on to work harder and improve your performance?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**74. To what extent does recognition encourage you to perform even better?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**75. To what extent does success encourage you to work harder and achieve greater heights?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**76. How often do you fail because other people interfere in your business?**

Hardly ever	1	2	3	4	5	6	7	Very often
----------------	---	---	---	---	---	---	---	------------

**77. To what extent do you depend on the advice or cues from others, in order to produce quality work?**

Not at all	1	2	3	4	5	6	7	To a great extent
------------	---	---	---	---	---	---	---	-------------------

**78. To what extent do you like taking decisions yourself?**

Not at all	1	2	3	4	5	6	7	To a great extent
------------	---	---	---	---	---	---	---	-------------------

**79. How readily would you reject a group decision if you do not agree with it?**

Not at all	1	2	3	4	5	6	7	Very readily
------------	---	---	---	---	---	---	---	--------------

**80. How readily would you air your views when they differ from someone else's?**

Not at all	1	2	3	4	5	6	7	Very readily
------------	---	---	---	---	---	---	---	--------------

**81. To what extent would you prefer to follow your own mind, rather than follow someone else's instructions?**

Not at all	1	2	3	4	5	6	7	To a great extent
------------	---	---	---	---	---	---	---	-------------------

**82. To what extent do you seek recognition for your own achievements?**

Not at all	1	2	3	4	5	6	7	To a great extent
------------	---	---	---	---	---	---	---	-------------------

**83. To what extent do you take responsibility for your own intellectual development?**

To a minor degree	1	2	3	4	5	6	7	Fully
----------------------	---	---	---	---	---	---	---	-------

**84. How strongly do you like occupying a leadership position?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**85. How strongly would you stick to your viewpoint when someone for whom you have great respect disagrees with you?**

Not at all strongly 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**86. How much do you like solving complex problems?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very much

**87. How important is it for you to receive feedback on how you have performed?**

Not at all important 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very important

**88. To what extent does one earn one's rewards for achievement?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**89. How readily do you accept responsibility for mistakes you have made in the work situation?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very readily

**90. To what extent does Lady Luck play a role in your life?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**91. How strongly do you believe in fate?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**92. To what extent is your life influenced by coincidences?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**93. To what extent does the achievement of your personal goals depend on yourself?**

To a minor degree 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Fully

**94. To what extent are other people responsible for the ups and downs in your life?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**95. How often do you feel that you have no control over your own circumstances?**

Never 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very often

**96. How readily do you accept responsibility for your own poor performance?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very readily

**97. To what extent may failures in life be attributed to fate?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Greatly

**98. To what extent is the respect you receive directly related to your behaviour?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**99. To what extent do negative experiences in you past prevent you from achieving now?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**100. How often do you achieve what you set out to do, irrespective of the conditions?**

Hardly ever 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Nearly always

**101. How strongly are you convinced that other people are in charge of your life and that they determine the outcome of issues?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**102. How sure are you that you can solve most of your problems, irrespective of the conditions?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very sure

**103. How strongly do you agree that a person can only achieve under the best circumstances?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**104. To what extent can failure in life be attributed to a lack of dedication?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Fully

**105. How much does success depend on hard work?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very much

**106. How much does success in life depend on special privileges?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very much

**107. How much is advancement in life determined by your superiors?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very much

**108. To what extent did your parents/guardians negatively influence your achievement at school, because of interference in your affairs?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**109. To what extent is your present achievement blocked by people who are hostile towards you?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**110. To what extent do you take personal responsibility for the things that go wrong in your life?**

To a minor degree 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**111. To what extent is the outcome of events determined by your own efforts?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**112. How often has your progress in the past been blocked by people that were hostile towards you?**

Never 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very often

**113. How strongly do you believe that only those people who are at the right place at the right time, get promoted?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**114. How strongly do you believe that only those people who belong to the right political party, have a chance in life?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**115. To what extent do your own efforts affect the outcome of events?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**116. To what extent does achievement depend upon utilising your God-given talents to the full?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Fully

**117. To what extent were your achievements deserved, and not merely due to luck?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**118. How well can you predict whether you have performed well or poorly in an examination that you have just written?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very well

**119. To what extent are promotions earned through hard work and perseverance?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**120. How well are you able to satisfy choosy people?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very well

**121. How strongly does belonging to a clique help one to be socially accepted?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**122. How sure are you that you possess the ability to produce work of the highest quality?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very sure

**123. How strongly would you defend your actions if others questioned them?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**124. How sure are you that you are sufficiently qualified for the work you are doing?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very sure

**125. To what extent do you prefer to plan and co-ordinate your own work programme?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**126. To what extent do you prefer challenging work to routine work?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**127. How often do you doubt the correctness of the decisions that you have taken?**

Hardly ever 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very often

**128. To what extent do you depend on the support of influential people when you have a job to do?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**129. How readily would you quit if you are battling with a complex problem?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very readily

**130. How often do you take the initiative in finding solutions for troublesome problems?**

Hardly ever 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very often

**131. How sure are you that your past achievements are the results of hard work and dedication?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very sure

**132. How strongly do you believe that a lack of perseverance leads to failures in life?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**133. How strongly do you believe that promotion in the new South Africa will depend largely on skin-colour?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**134. How strongly do you believe that talented person will overcome negative circumstances?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**135. How strongly do you believe that your fate is determined by coincidental events over which you have no control?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**136. How strongly do you believe that your advancement in life will be determined by certain influential people?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**137. How easily can you find a creative solution to a problem?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very easily

**138. To what extent do you expect to be successful in solving complex problems?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 To a great extent

**139. How sure are you that you can influence the way that things turn out?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very sure

**140. How strongly do you feel that your chances in life depend on powerful people?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**141. How sure are you that you can overcome most obstacles in life through your own striving?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very sure

**142. How sure are you that you can meet any challenge through the grace of God?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very sure

**143. How strongly do you believe that success in life depends entirely on your will to succeed?**

Not at all 

1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very strongly

**144. How often have you failed despite your hard work and commitment to a cause?**

Hardly ever 

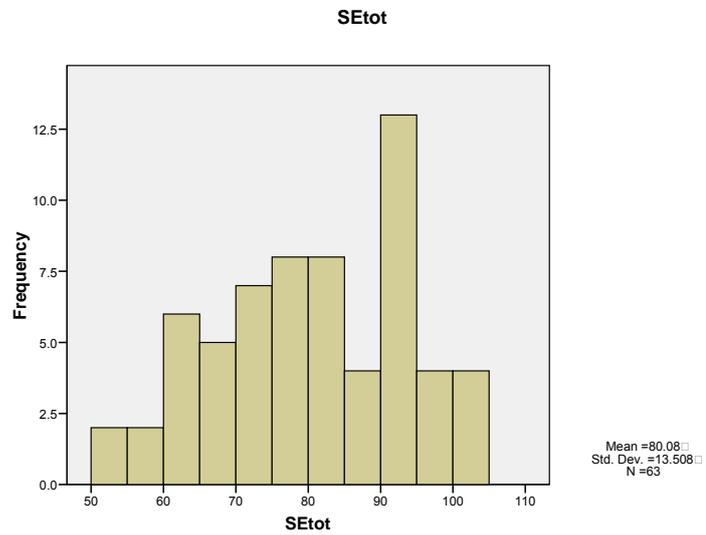
1	2	3	4	5	6	7
---	---	---	---	---	---	---

 Very often

Please email the inventory back to me at [tessa.dewet@webmail.co.za](mailto:tessa.dewet@webmail.co.za) or fax it to 086 687 9859.

## APPENDIX B: FREQUENCY STATISTICS

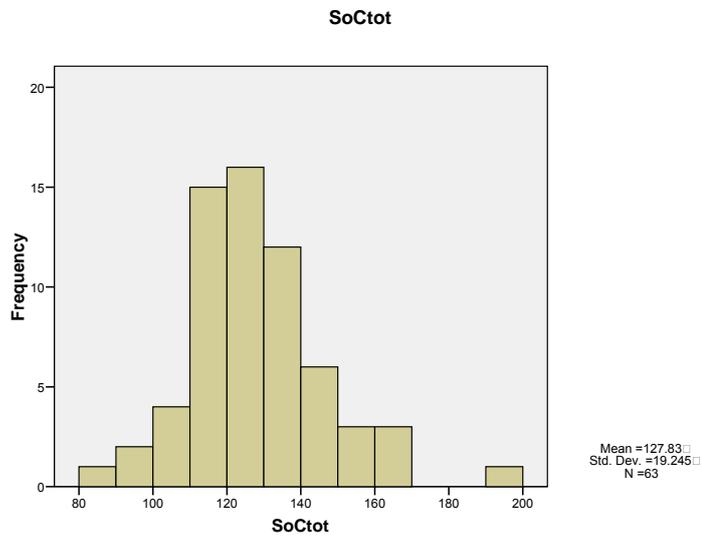
### SELF EFFICACY (SEtot)



**SEtot**

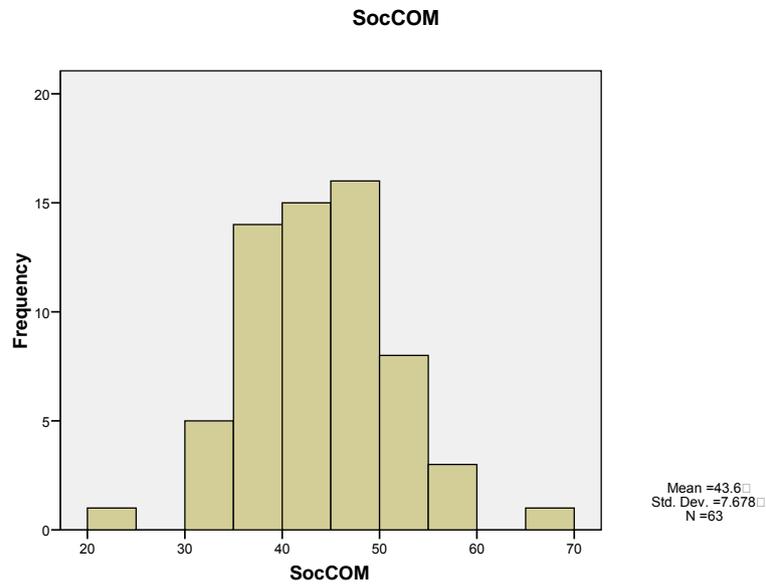
	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 52	1	1.6	1.6	1.6
54	1	1.6	1.6	3.2
57	2	3.2	3.2	6.3
60	1	1.6	1.6	7.9
61	1	1.6	1.6	9.5
62	4	6.3	6.3	15.9
65	1	1.6	1.6	17.5
66	1	1.6	1.6	19.0
69	3	4.8	4.8	23.8
70	2	3.2	3.2	27.0
71	2	3.2	3.2	30.2
72	1	1.6	1.6	31.7
73	1	1.6	1.6	33.3
74	1	1.6	1.6	34.9
76	2	3.2	3.2	38.1
77	2	3.2	3.2	41.3
78	3	4.8	4.8	46.0
79	1	1.6	1.6	47.6
80	1	1.6	1.6	49.2
81	3	4.8	4.8	54.0
82	1	1.6	1.6	55.6
83	1	1.6	1.6	57.1
84	2	3.2	3.2	60.3
86	1	1.6	1.6	61.9
87	1	1.6	1.6	63.5
88	2	3.2	3.2	66.7
90	6	9.5	9.5	76.2
92	2	3.2	3.2	79.4
93	1	1.6	1.6	81.0
94	4	6.3	6.3	87.3
95	1	1.6	1.6	88.9
98	3	4.8	4.8	93.7
100	1	1.6	1.6	95.2
103	1	1.6	1.6	96.8
104	2	3.2	3.2	100.0
Total	63	100.0	100.0	

# SENSE OF COHERENCE - TOTAL (SOctot)



SoCtot					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	81	1	1.6	1.6	1.6
	95	1	1.6	1.6	3.2
	98	1	1.6	1.6	4.8
	103	1	1.6	1.6	6.3
	106	1	1.6	1.6	7.9
	108	2	3.2	3.2	11.1
	111	3	4.8	4.8	15.9
	112	2	3.2	3.2	19.0
	113	1	1.6	1.6	20.6
	114	2	3.2	3.2	23.8
	115	1	1.6	1.6	25.4
	116	3	4.8	4.8	30.2
	117	1	1.6	1.6	31.7
	119	2	3.2	3.2	34.9
	120	3	4.8	4.8	39.7
	121	1	1.6	1.6	41.3
	122	1	1.6	1.6	42.9
	123	2	3.2	3.2	46.0
	124	1	1.6	1.6	47.6
	125	3	4.8	4.8	52.4
	126	2	3.2	3.2	55.6
	127	1	1.6	1.6	57.1
	128	2	3.2	3.2	60.3
	130	1	1.6	1.6	61.9
	131	1	1.6	1.6	63.5
	132	2	3.2	3.2	66.7
	133	1	1.6	1.6	68.3
	134	1	1.6	1.6	69.8
	135	1	1.6	1.6	71.4
	136	2	3.2	3.2	74.6
	137	1	1.6	1.6	76.2
	138	1	1.6	1.6	77.8
	139	1	1.6	1.6	79.4
	142	1	1.6	1.6	81.0
	148	3	4.8	4.8	85.7
	149	2	3.2	3.2	88.9
	156	1	1.6	1.6	90.5
	157	1	1.6	1.6	92.1
	158	1	1.6	1.6	93.7
	163	1	1.6	1.6	95.2
	165	1	1.6	1.6	96.8
	167	1	1.6	1.6	98.4
	192	1	1.6	1.6	100.0
Total		63	100.0	100.0	

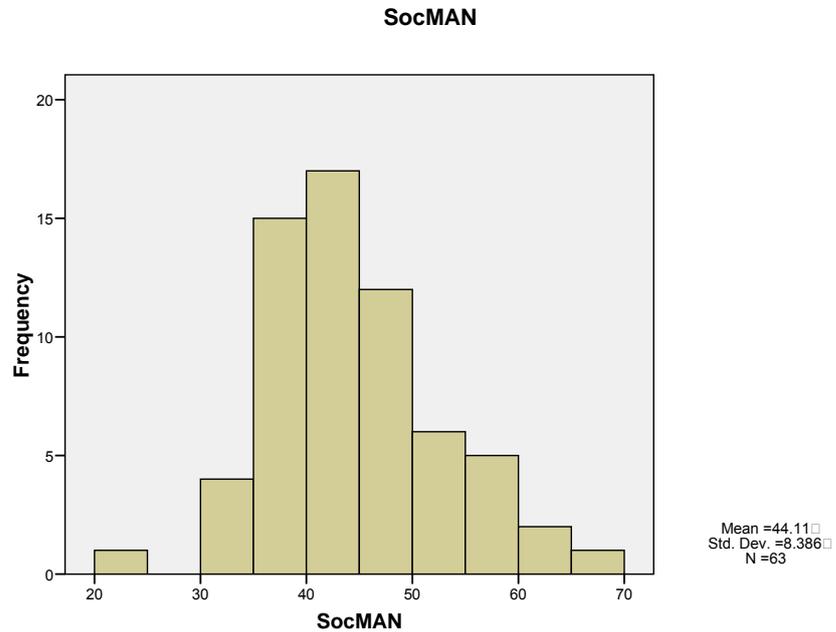
# SENSE OF COHERENCE – COMPREHENSIBILITY (SOCcom)



**SocCOM**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	23	1	1.6	1.6	1.6
	30	1	1.6	1.6	3.2
	32	1	1.6	1.6	4.8
	33	1	1.6	1.6	6.3
	34	2	3.2	3.2	9.5
	35	3	4.8	4.8	14.3
	36	1	1.6	1.6	15.9
	37	3	4.8	4.8	20.6
	38	3	4.8	4.8	25.4
	39	4	6.3	6.3	31.7
	40	1	1.6	1.6	33.3
	41	6	9.5	9.5	42.9
	42	3	4.8	4.8	47.6
	43	2	3.2	3.2	50.8
	44	3	4.8	4.8	55.6
	45	3	4.8	4.8	60.3
	46	1	1.6	1.6	61.9
	47	4	6.3	6.3	68.3
	48	5	7.9	7.9	76.2
	49	3	4.8	4.8	81.0
	50	4	6.3	6.3	87.3
	52	1	1.6	1.6	88.9
	54	3	4.8	4.8	93.7
55	1	1.6	1.6	95.2	
57	1	1.6	1.6	96.8	
58	1	1.6	1.6	98.4	
69	1	1.6	1.6	100.0	
Total		63	100.0	100.0	

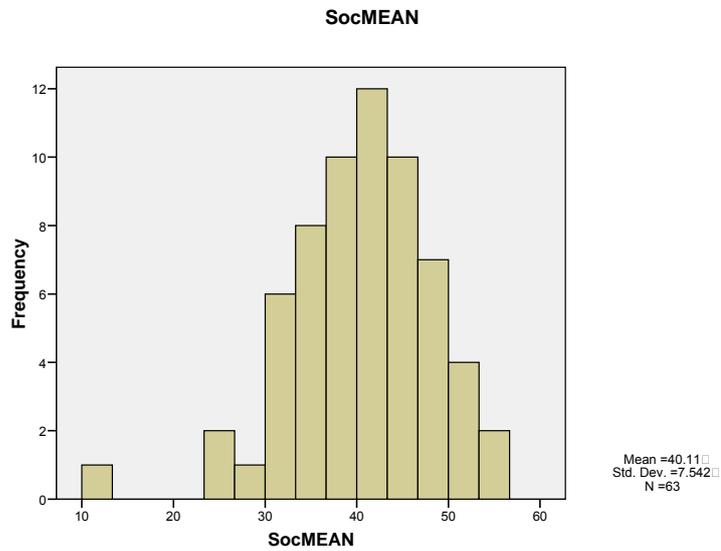
## SENSE OF COHERENCE – MANAGEABILITY (SOCman)



**SocMAN**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	22	1	1.6	1.6	1.6
	31	1	1.6	1.6	3.2
	32	2	3.2	3.2	6.3
	34	1	1.6	1.6	7.9
	35	2	3.2	3.2	11.1
	36	1	1.6	1.6	12.7
	37	5	7.9	7.9	20.6
	38	1	1.6	1.6	22.2
	39	6	9.5	9.5	31.7
	40	2	3.2	3.2	34.9
	41	6	9.5	9.5	44.4
	42	4	6.3	6.3	50.8
	43	2	3.2	3.2	54.0
	44	3	4.8	4.8	58.7
	45	3	4.8	4.8	63.5
	46	2	3.2	3.2	66.7
	47	3	4.8	4.8	71.4
	48	1	1.6	1.6	73.0
	49	3	4.8	4.8	77.8
	50	1	1.6	1.6	79.4
	52	2	3.2	3.2	82.5
	53	1	1.6	1.6	84.1
	54	2	3.2	3.2	87.3
	56	2	3.2	3.2	90.5
	57	1	1.6	1.6	92.1
	58	1	1.6	1.6	93.7
	59	1	1.6	1.6	95.2
	61	2	3.2	3.2	98.4
	67	1	1.6	1.6	100.0
Total		63	100.0	100.0	

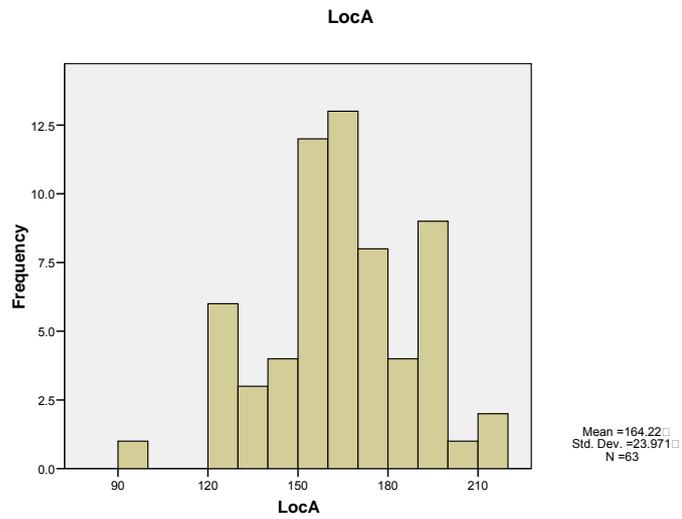
## SENSE OF COHERENCE – MEANINGFULNESS (SOCmean)



**SocMEAN**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 13	1	1.6	1.6	1.6
24	1	1.6	1.6	3.2
26	1	1.6	1.6	4.8
27	1	1.6	1.6	6.3
31	3	4.8	4.8	11.1
32	1	1.6	1.6	12.7
33	2	3.2	3.2	15.9
34	2	3.2	3.2	19.0
35	3	4.8	4.8	23.8
36	3	4.8	4.8	28.6
37	3	4.8	4.8	33.3
38	4	6.3	6.3	39.7
39	3	4.8	4.8	44.4
40	4	6.3	6.3	50.8
41	3	4.8	4.8	55.6
42	4	6.3	6.3	61.9
43	1	1.6	1.6	63.5
44	5	7.9	7.9	71.4
45	3	4.8	4.8	76.2
46	2	3.2	3.2	79.4
47	3	4.8	4.8	84.1
48	4	6.3	6.3	90.5
50	3	4.8	4.8	95.2
51	1	1.6	1.6	96.8
54	1	1.6	1.6	98.4
56	1	1.6	1.6	100.0
Total	63	100.0	100.0	

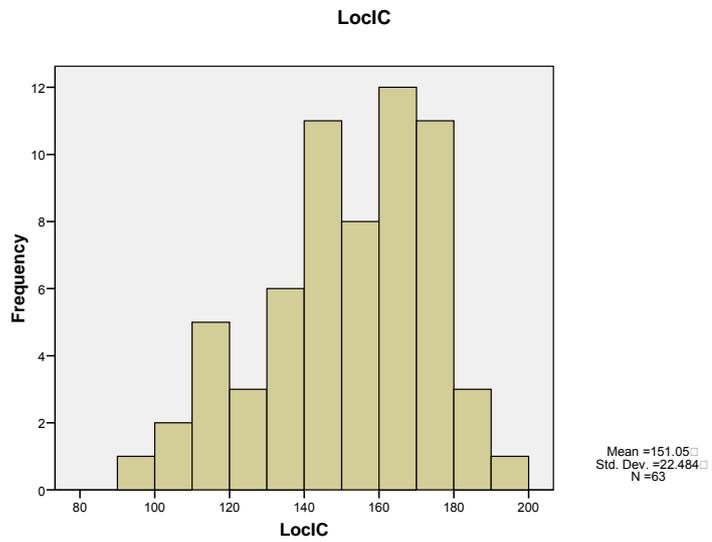
# LOCUS OF CONTROL – AUTONOMY (LOCa)



**LocA**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 97	1	1.6	1.6	1.6
121	1	1.6	1.6	3.2
124	1	1.6	1.6	4.8
126	1	1.6	1.6	6.3
128	3	4.8	4.8	11.1
136	2	3.2	3.2	14.3
138	1	1.6	1.6	15.9
141	1	1.6	1.6	17.5
142	2	3.2	3.2	20.6
147	1	1.6	1.6	22.2
150	1	1.6	1.6	23.8
151	1	1.6	1.6	25.4
153	2	3.2	3.2	28.6
154	3	4.8	4.8	33.3
155	1	1.6	1.6	34.9
156	2	3.2	3.2	38.1
157	1	1.6	1.6	39.7
158	1	1.6	1.6	41.3
162	1	1.6	1.6	42.9
163	2	3.2	3.2	46.0
166	4	6.3	6.3	52.4
167	2	3.2	3.2	55.6
168	2	3.2	3.2	58.7
169	2	3.2	3.2	61.9
171	2	3.2	3.2	65.1
172	1	1.6	1.6	66.7
174	2	3.2	3.2	69.8
176	1	1.6	1.6	71.4
179	2	3.2	3.2	74.6
180	2	3.2	3.2	77.8
183	1	1.6	1.6	79.4
185	1	1.6	1.6	81.0
190	3	4.8	4.8	85.7
192	1	1.6	1.6	87.3
195	1	1.6	1.6	88.9
197	3	4.8	4.8	93.7
199	1	1.6	1.6	95.2
201	1	1.6	1.6	96.8
214	1	1.6	1.6	98.4
215	1	1.6	1.6	100.0
Total	63	100.0	100.0	

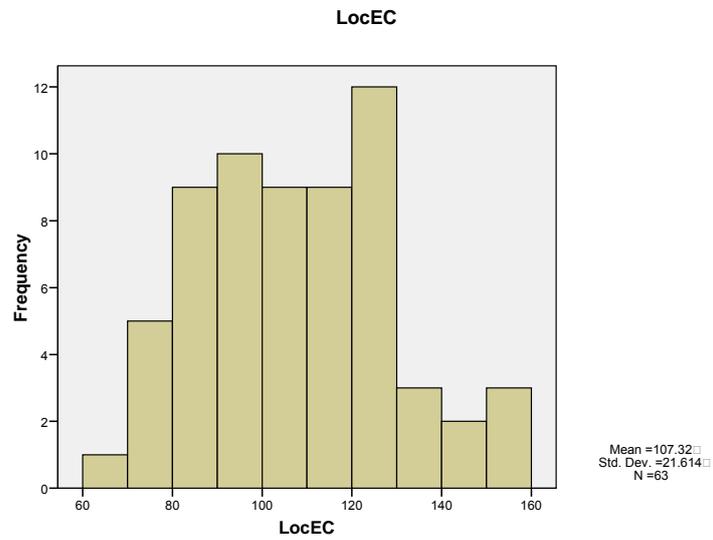
# LOCUS OF CONTROL – INTERNAL CONTROL (LOCic)



**LoCiC**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 99	1	1.6	1.6	1.6
100	1	1.6	1.6	3.2
106	1	1.6	1.6	4.8
111	1	1.6	1.6	6.3
114	1	1.6	1.6	7.9
115	1	1.6	1.6	9.5
116	2	3.2	3.2	12.7
123	1	1.6	1.6	14.3
126	2	3.2	3.2	17.5
130	1	1.6	1.6	19.0
133	1	1.6	1.6	20.6
135	1	1.6	1.6	22.2
137	1	1.6	1.6	23.8
138	1	1.6	1.6	25.4
139	1	1.6	1.6	27.0
140	2	3.2	3.2	30.2
141	1	1.6	1.6	31.7
143	2	3.2	3.2	34.9
145	2	3.2	3.2	38.1
147	1	1.6	1.6	39.7
148	2	3.2	3.2	42.9
149	1	1.6	1.6	44.4
150	1	1.6	1.6	46.0
152	1	1.6	1.6	47.6
154	2	3.2	3.2	50.8
155	2	3.2	3.2	54.0
159	2	3.2	3.2	57.1
160	1	1.6	1.6	58.7
161	2	3.2	3.2	61.9
162	1	1.6	1.6	63.5
163	2	3.2	3.2	66.7
164	3	4.8	4.8	71.4
166	1	1.6	1.6	73.0
169	2	3.2	3.2	76.2
170	1	1.6	1.6	77.8
171	1	1.6	1.6	79.4
173	4	6.3	6.3	85.7
174	2	3.2	3.2	88.9
175	1	1.6	1.6	90.5
179	2	3.2	3.2	93.7
183	1	1.6	1.6	95.2
185	1	1.6	1.6	96.8
186	1	1.6	1.6	98.4
191	1	1.6	1.6	100.0
Total	63	100.0	100.0	

## LOCUS OF CONTROL – EXTERNAL CONTROL (LOCec)



**LocEC**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 64	1	1.6	1.6	1.6
70	1	1.6	1.6	3.2
72	1	1.6	1.6	4.8
73	1	1.6	1.6	6.3
77	1	1.6	1.6	7.9
78	1	1.6	1.6	9.5
81	1	1.6	1.6	11.1
82	1	1.6	1.6	12.7
83	2	3.2	3.2	15.9
84	1	1.6	1.6	17.5
86	2	3.2	3.2	20.6
89	2	3.2	3.2	23.8
90	1	1.6	1.6	25.4
91	2	3.2	3.2	28.6
93	1	1.6	1.6	30.2
94	1	1.6	1.6	31.7
95	1	1.6	1.6	33.3
98	2	3.2	3.2	36.5
99	2	3.2	3.2	39.7
101	1	1.6	1.6	41.3
102	1	1.6	1.6	42.9
104	1	1.6	1.6	44.4
106	2	3.2	3.2	47.6
107	2	3.2	3.2	50.8
109	2	3.2	3.2	54.0
110	2	3.2	3.2	57.1
111	1	1.6	1.6	58.7
113	2	3.2	3.2	61.9
114	1	1.6	1.6	63.5
115	1	1.6	1.6	65.1
119	2	3.2	3.2	68.3
120	1	1.6	1.6	69.8
121	2	3.2	3.2	73.0
122	3	4.8	4.8	77.8
124	2	3.2	3.2	81.0
128	1	1.6	1.6	82.5
129	3	4.8	4.8	87.3
133	1	1.6	1.6	88.9
138	2	3.2	3.2	92.1
142	2	3.2	3.2	95.2
151	2	3.2	3.2	98.4
155	1	1.6	1.6	100.0
Total	63	100.0	100.0	