

THE DEVELOPMENT OF THE SELF CONCEPT SCALE  
FOR THE HEARING IMPAIRED

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## ABSTRACT

The self concept is a critical variable in the overall development and functioning of hearing impaired pupils, yet the findings of research studies indicate that pupils may have difficulty forming a realistic, positive self concept. The consequences of the hearing loss appear to contribute to lowered self-esteem. The accumulated effect of unresolved psychosocial developmental stages may increase the probability of identity confusion in adolescence.

The results of research on the self concept of the hearing impaired has been inconclusive and difficult to interpret partly due to the use of inappropriate self concept scales. There is a need for a relevant test which assesses pupils' strengths and weaknesses in dimensions of the self concept.

In this dissertation, the 'Self Concept Scale for the Hearing Impaired' (SSHI) is developed with the purpose of designing an appropriate self concept scale specifically for use on hearing impaired pupils between the ages of 11 and 19 years. During the construction and administration of the SSHI, an attempt was made to control for confounding variables known to influence responses of pupils and to distort scores obtained. The SSHI was constructed primarily according to the homogenous-keying approach. Test-retest reliability coefficients were computed over a 4 to 5 week period for 198 pupils in three schools for the hearing impaired in the Western Cape. A questionnaire containing

collateral information on each pupil was completed by professionals who were in close institutional contact with pupils. An adequate reliability coefficient of 0,70 was obtained for the full scale SSHI. The SSHI has moderate ( $r=0,64$ ) to adequate ( $r=0,80$ ) reliability across the three schools. It was found that the reliability of the SSHI may well be affected by the age, sex, degree of hearing loss, and the language and communication development of pupils.

Fairly low concurrent validity with professionals' criterion-ratings of their pupils' self concept was obtained. A panel of six expert judges generally rated the content validity of sections of the SSHI as adequate. A factor analysis of pupils' responses revealed a fair correspondence between emergent factors and sections of the SSHI, which represent dimensions of the self concept. The factor analysis indicates that there are two new factors. These are described as self perceptions relating to 'communication' and self perceptions relating to 'academic achievement'.

On the basis of the findings in this dissertation, the limitations of the SSHI are considered and recommendations are given for its revision and possible usage. The SSHI appears to have sufficient reliability and validity to warrant further work on it to improve its effectiveness. It may well prove to have a potential place in the test battery of educational psychologists working with hearing impaired pupils.

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CHAPTER 1INTRODUCTION TO THE STUDY

The purpose of this chapter is to introduce the topic, the aim and the method of research. A statement of the research problem is given. The motivation to conduct the study, its limitations and scope are also discussed. Finally, a brief overview of chapters is presented.

1.1 BACKGROUND TO THE STUDY

The self concept is a critical factor in the educational and social adjustment of hearing impaired pupils (Lloyd, 1985). In an effort to gain more knowledge about the hearing impaired pupil and the variables affecting his adjustment it is useful to address the issue of the self concept and its measurement (Warren and Hasenstab, 1986). Yet, findings of studies which have attempted to determine the relationship between self concept development and hearing impairment have been inconclusive, due partially to the use of inappropriate self concept measuring instruments.

1.2 PROBLEM STATEMENT

Hearing impairment is a multifaceted condition that may lead to adjustment problems in children. Diminished auditory contact with the environment, combined with parental and peer reactions to the handicap, can result in a different set of experiences compared to hearing children and adolescents (Davis and Silverman, 1978).

2.

The self concept develops according to the opportunities provided by the following : social conditions, schooling, home circumstances, significant others and the peer group (Burns, 1979; Felker, 1974). Limited interactions with and feedback from others, as well as communication problems contribute to the likelihood of poor self concept development in hearing impaired pupils (Garrison and Tesch, 1978).

Research evidence suggests that low performance in schoolwork and academic disengagement are due, in part, to negative attitudes towards the self (Burns, 1982; Purkey, 1970). Many hearing impaired pupils have academic and social difficulties not directly due to the handicap, but because they perceive themselves as unable to cope with schoolwork or social relations.

Thus, hearing impaired pupils would benefit from educational and psychological interventions directed at self concept enhancement. Unfortunately, available self concept measures have been inappropriate and inadequate for the hearing impaired. Erroneous results have been produced that cannot accurately provide information useful in formulating intervention strategies (Koelle and Convey, 1982).

A lack of research tools and convenient means of communication have prevented a clearer understanding of the way hearing impaired children perceive aspects of themselves

(Bragman, 1982). The assessment by professionals, and often parents, of the pupil's adaptation and attitudes can be tainted by their inability to enter the 'world of the deaf' (Moore, 1978). There is a need for psychologists and professionals to have more of a realistic understanding of hearing impaired children based on objective inferences (Portswood, 1979; Schloss and Goldsmith, 1986).

An appropriate self concept measure, designed to concur with the unique circumstances of the hearing impaired in South Africa is needed to provide professionals with insight into the pupils' rehabilitation needs.

### 1.3 AIM OF THE STUDY

The aim of the study is the construction, and evaluation of the validity and the reliability of the 'Self Concept Scale for the Hearing Impaired' (SSHI).

### 1.4 MOTIVATION FOR THE STUDY

The motivation for this study is the need to develop a self concept scale appropriate for hearing impaired pupils as such a scale is presently not available in South Africa. The purpose of the SSHI is to enable educators, teacher-counsellors and psychologists to become aware of a pupil's deficits and strengths in self conception. These professionals will then be able to apply self concept enhancement activities to obviate weaknesses in particular areas of individual growth.

## 1.5 RESEARCH PROCEDURE

### 1.5.1 Theoretical study and literature review

The relevant and recent literature pertinent to self concept theory and measurement, specifically related to the hearing impaired, is reviewed. A review of the literature reveals factors that are significant for the development of the SSHI.

### 1.5.2 Empirical study

The SSHI is constructed according to a priori and theoretical criteria. It was administered to 253 hearing impaired pupils between the ages of 11 and 19 years at three schools for the hearing impaired in the Western Cape. Background information on pupils who completed the SSHI was obtained. The reliability and the validity of the SSHI are calculated.

## 1.6 RESEARCH CONSTRAINTS AND LIMITATIONS

The study is limited to hearing impaired pupils between 11 and 19 years because of a need for research on the self concept development of pre-adolescents (11 and 12 year olds) and adolescents in South Africa. This is a crucial stage of development for the hearing impaired, in that there are greater demands to cope with the wider society and, eventually, school-leaving (Ross, 1986). Furthermore, previous research is limited in this particular area.

It must be emphasised that this is a preliminary study. It is intended that any refinements and a revision of the SSHI will be based on the findings of this investigation.

Lastly, the SSHI was constructed under financial constraints which imposed limits on the quality of its production.

### 1.7 SCOPE OF THE STUDY

The study examines the nature of the self concept and the methodological problems associated with its measurement. The influence of hearing impairment on self concept is discussed within a developmental theory framework. A review of recent and relevant literature is presented with attention given to issues of self concept measurement.

The empirical study consists of: first, the construction and administration of the SSHI, according to the specifications recommended in the literature; second, the procedures used in determining the reliability and validity of the SSHI and the findings obtained.

In the following pages, an overview of each chapter is given.

#### Chapter 1

Introduction

## Chapter 2

An explanation and definition is given of the self concept. Its origins, function, structure and stability are discussed.

## Chapter 3

An explanation of terms is given. The impact of the following factors on self concept development is discussed : communication difficulties, parental attitudes and social interaction with hearing society. Self concept development from infancy to adolescence is examined according to Erikson's developmental theory.

## Chapter 4

A discussion is presented on the issues associated with self concept measurement and on problems that occur with the use of self concept scales. Four recent studies are described. The review of each study has a particular focus on test instruments used, testing procedure and the way in which the findings of the study were interpreted.

## Chapter 5

The procedures used in the construction of the SSHI and its administration are discussed.

## Chapter 6

Reliability is defined and four types of reliability are discussed. Descriptive and test-retest reliability findings and their interpretation are presented.

Chapter 7

Validity is defined and some types of validity are outlined. The findings of each type of validity determined in this study are presented.

Chapter 8

A summary is given of the theoretical and the empirical studies and their findings. A concluding discussion follows on the revision and on the limitations of the SSHI. Recommendations are made for its possible use.

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CHAPTER 2THE SELF CONCEPT THEORY

In this chapter an explanation is given of the self concept. Its origins, importance and stability are considered in relation to the maturation of the hearing impaired child. The multi-dimensional structure of the self concept is discussed. The general self concept and its components are exemplified, with the purpose of providing a theoretical framework for the construction of the SSHI.

2.1 WHAT IS THE SELF CONCEPT?

A wide range of self-terms are employed by different psychologists in inconsistent and ambiguous ways (Wylie, 1974). The use of constructs such as ego and identity in Erikson's psychosocial theory (1974), creates further confusion. The meaning and definition of terms used in this research project are presented in Appendix A.

The self concept begins to operationalise when a child becomes aware of himself as a separate individual from significant others and his environment. The child forms central concepts about himself through the process of self awareness and interrelationships with others.

It is only when the infant begins to attach meaning to sensory data, that he is said to have a self concept (Felker, 1974). The meanings attached to sensory information depend on the child's evaluation of his interaction with the environment. His evaluation is moulded by the attitudes of

significant others, especially his parents, towards him. Thus, the self concept has its roots in early experiences and evolves dynamically throughout the lifespan.

Purkey (1970) described the self concept as a complex and dynamic system of beliefs about the self. According to Felker (1974), it is a unique set of perceptions, ideas and attitudes that the individual develops about himself. Burns (1982:3) proposes that the self concept is a combination of the following:

- The self-image, i.e. how the individual describes himself.
- Affective intensity and evaluation, i.e. how strongly the person feels about his self-image; and whether he has a favourable or unfavourable opinion of various facets of that image.
- Behavioural possibilities, i.e. what the person is likely to do in response to his evaluation of himself.

The self concept can be broadly described as a person's perception of himself. It may have cognitive, emotional and evaluative components that influence behaviour. In this sense, the self concept mediates between the person and his surroundings (Burns, 1979).

## 2.2 DEFINITION OF THE SELF CONCEPT

For the purposes of this project, the self concept is defined as the sum total of the perceptions that the hearing impaired

pupil has of himself, consisting of unique attitudes, beliefs, evaluations and behavioural tendencies.

Although, the self concept is not a precise way to understand behaviour, it provides useful insight into the pupil's adaptation to his circumstances (Warren and Hasenstab, 1986). It is a "hypothetical construct" that describes multifaceted attitudes toward the self (Burns, 1979:66). Hence, the self concept is an abstraction concerning the pupil's characteristics, capabilities, achievement and behaviour. Values derived from social experience are associated with the self concept.

### 2.3 PRIMARY SOURCES OF SELF CONCEPT DEVELOPMENT

The self concept develops from diverse personal experiences. Burns (1979) and Lloyd (1985) emphasise five important sources of the self concept, which are discussed below in the context of the hearing impaired child's development:

#### (i) Body image or physical self concept:

If a child has a physical appearance or handicap that is misunderstood in society, he is likely to learn from his social interactions that he should regard himself with the same negative connotations which society is attaching to his handicap. It is possible, for this reason, that hearing impaired children have more difficulty developing and maintaining a positive self concept.

(ii) Language:

As a consequence of a hearing loss, language development can become delayed and deficient (Davis and Silverman, 1978). This limits the possibilities for educational advancement, social interaction and can create communication difficulties. Poorer language development can, therefore, negatively influence self conceptualisation in the hearing impaired.

(iii) Interpretation by the child of the social responses of others:

The way people respond to the child affects his perceptions and feelings toward himself. Communication difficulties can contribute to the child's confused interpretation of the social responses of others towards him.

(iv) Identification with the appropriate sex role model and stereotype:

Hearing impaired children do not always have the opportunity of identifying with well-adapted hearing impaired adults. Successful identification with a hearing parent may be prevented by the difference in experience between parent and child, due to the child's hearing loss.

(v) Child-rearing practices:

A hearing handicap disrupts and places stress on the parent-child relationship. Rejection, overprotection or ignoring the handicapped child, has terrible consequences on his present and future self concept development (Katz, Mathis and Merrill, 1978).

Hearing impairment imposes restrictions on the primary sources of self concept development, unless the child is provided with special opportunities to counter the negative consequences of the handicap.

2.4 IMPORTANCE OF THE SELF CONCEPT

There are three major functions of the self concept (Felker, 1974):

- It operates as a mechanism for maintaining inner consistency.
- It determines how experiences are interpreted.
- It provides a set of expectancies.

Each of the above functions influences behaviour. Research has established that there is a relationship between facets of the self concept, behaviour and academic achievement (Byrne and Shavelson, 1986; Purkey, 1970). The self concept is considered to be a critical variable in educational progress and overall development. The functions of the self concept are protected through defence mechanisms (Rogers, 1975).

## 2.5 STRUCTURE OF THE SELF CONCEPT

Research has confirmed the hierarchical, multi-dimensional structure of the self concept (Byrne, 1984). It is organised and structured, in that people categorize the vast quantity of information they have of themselves and relate these categories to one another. The self concept becomes increasingly multifaceted and abstracted from infancy to adulthood (Shavelson and Bolus, 1982). The structural model does not detract from the dynamic process of self concept formation and development. By adolescence, the self concept has differentiated into a general self concept at the apex, and more specific dimensions toward the base.

Burns (1979) has conceptualised the general self concept as a 'global' construct incorporating the total of all possible ways the individual can perceive himself.

William James first proposed that there is a duality to the general or 'global' self concept (Burns, 1979):

- The self as knower.
- The self as known, which consists of a number of subselves.

These subselves have been designated as follows (Burns, 1979):

- The 'cognised' self concept, i.e. how the individual perceives himself.

- The transitory self concept, which the individual holds at present, and is influenced by the mood of the moment.
- The 'other' self, i.e. how the individual believes others view and evaluate him.
- The ideal self, i.e. what the individual would like to be.

Self-knowledge (the self-image) and self-evaluation (self-esteem) are learnt through experience, and determine whether the individual perceives facets of himself as positive or negative.

## 2.6 COMPONENTS OF THE SELF CONCEPT

Researchers have found that self perceptions can be appropriately explained by sub-dividing the general self concept into components. Fundamental components have been described as academic, social, physical and, in some cases, emotional self concepts (Shavelson and Bolus, 1982).

Since self conceptualisation is a dynamic process that occurs in different contexts, an overlapping and continuity between components can be expected. The following components are the theoretical basis for the design of the Self Concept Scale for the Hearing Impaired (SSHI):

- Physical self concept.
- Personal self concept.

- Social self concept. It consists of the following facets :
  - Family.
  - Teachers.
  - Peers.
  - Hearing peers and society.
- Academic self concept.

In the pages that follow, a detailed discussion is given of each component.

2.6.1. Physical self concept, i.e. the pupil's perception of his physical appearance and ability (Shavelson and Bolus, 1982). The emergence of a sense of separate self during infancy is related to the body-image and physical autonomy (Felker, 1974). The physical self concept is most closely allied to the general self concept during infancy. As the child matures, the facilities for more sophisticated and abstract self-evaluation become available (Allport, 1961). Throughout life, physical appearance is a factor in eliciting particular social responses and feedback, which affects self perceptions. During adolescence, physical changes are an important part of the re-evaluation of the self.

"Adolescence is a time when the body is considered the primary focus of concern. Self-esteem is to a large extent determined by the body image" (Grant and Fodor, 1986:270).

The adolescent regards his physique as the final edition of himself. His physical maturity changes the expectations of others toward him.

The satisfactory acceptance of the handicap into self perception is hampered by the social stigma of a hearing loss in the normal society (Lysons, 1984). Male hearing impaired adolescents value physical 'ability' and females place priority on appearance. Both sexes have difficulty forming a positive physical self concept because of the connotation of the handicap (Lloyd, 1985).

2.6.2 Personal self concept, i.e. the pupil's perception of his personal characteristics and capabilities. (Alberts, 1985). The personal self concept incorporates self perceptions of psychological and emotional attributes. Conceptually, it is most closely allied to Shavelson's et al. (1976) notion of the emotional self concept. It is the pupil's perception of his person that largely excludes physical, academic and social spheres. The self concept develops from the more concrete (bodily image), to the more abstract (mental image) (Allport, 1961). Thus, difficulties in the formation of the physical self concept are likely to affect personal self concept development (Alberts, 1985). The personal self concept evolves as a separate component of the general self concept by pre-adolescence.

2.6.3 Social self concept, i.e. the pupil's perception of how others evaluate and interact with him (Burns, 1979). The pupil's interpretation of social experience is the basis of the social self concept. Self concept development is in the context of the child's environment, which includes significant others, beginning with the immediate family, extending to peers, teachers, community and, finally, society with its norms and values (Holland, 1977).

A person can have as many social selves as there are individuals, or groups, whose opinion he values as important. The social self concept can be divided into a number of facets, each contributing to the total picture of self in relation to others. These are discussed in the forthcoming sections:

(a) Family:

The conditions of acceptance, nurturance and respect in the family provide the foundation of a healthy self concept (Nolan and Tucker, 1981). The parent-child relationship has been found to be a significant predictor of the positive or negative direction of self concept development amongst the hearing impaired (Warren and Hasenstab, 1986).

(b) Teachers:

In pre-school and school, the teacher assumes an important role in the child's evaluation of himself (Haynes, Comer, Hamilton-Lee, Boger, Rollok, 1987). The verbal and non-verbal

communication of the teacher to the pupil is toned with emotional and evaluational content. A pupil's perception of his progress and competence may be measured against the standards and expectancies set by his teacher (Murphy-Berman, Stoephen-Fisher and Mathias, 1987). Teachers' expectancies and subjective assessment of pupils can create a self-fulfilling prophecy regarding the pupils' capabilities at school (Rist, 1970). The teacher is a particularly significant figure for hearing impaired children, because of the early age at which they enter the school.

(c) Peers:

The pupil's relations with his peers becomes increasingly more important as he enters the adolescent years. Peer acceptance is crucial for the maintenance of self-esteem. A sense of competence depends on evaluation from peers (Eskilson, Wiley, Muehlbauer and Dodder, 1986). In the case of the pupils in this study, the peer group is most likely to be hearing impaired companions in the school.

(d) Hearing peers and society:

The pupil's perception of his social relations with normal peers and adults, has been introduced as a separate facet of the social self concept. The inclusion is justified by the impact that hearing people have on the self concept development of the hearing impaired adolescent. The social implications of a hearing loss are clearly stated by Lysons (1984 : 53):

"A person with a hearing loss is socially handicapped in two ways: firstly, by the restricted opportunities imposed by the loss of hearing for contact with the environment; secondly, by the attitudes of hearing persons to the impairment and the effects of such attitudes on the self-image of an individual".

Negative reactions from hearing people can cause the hearing impaired child to perceive himself as inadequate. Stereotypes about 'deafness' and misinterpretations of behaviour by hearing people tend to reinforce social isolation. The lack of social integration can validate a self-fulfilling prophecy of personal incompetency, that further reinforces a reluctance to socialise (Hank, Morten and Wetzel, 1986). Within his own community, the hearing impaired pupil may experience a feeling of belonging and a positive self concept, that is not necessarily generalised to the wider society.

The protected community of the 'special' school can magnify the difference between the hearing impaired sub-culture and normal society. The most adaptive strategy is for the pupil to function in both 'hearing', and 'deaf worlds'. Integration in both 'worlds' is likely to result in a realistic self concept "free of conflicts" (Saffarty and Katz, 1978 : 440). Although, social integration is a two way process in which he is "generally tolerated, but rarely fully accepted" (Lysons, 1984 : 56). Thus, a pupil's experiences in normal society greatly influence his self concept development.

2.6.4 Academic self concept, i.e. self perceptions associated with schooling. Many variables contribute to the formation of the academic self concept, which is a separate, but related dimension to the general self concept (Byrne, 1984). The academic self concept correlates more highly with academic achievement than the general self concept (Mboya, 1986).

The relationship between academic self concept and scholastic achievement is complex and difficult to accurately predict amongst the hearing impaired, because of the variety of intervening variables, such as family relations, teacher expectations, social interactions and language proficiency.

In this dissertation, the academic self concept is represented by school-related attitudes relevant to the hearing impaired. Hearing impaired pupils in South Africa are taught an 'adapted' curriculum which may vary from the normal school. Furthermore, pupils adopt different criteria and strategies toward success and academic achievement (Anthony, 1981).

## 2.7 TEMPORAL STABILITY OF THE SELF CONCEPT

In their extensive review of the literature, Shavelson, et al. (1976) concluded that seven factors contribute to the structure of the self concept. It has been described as: organised, multi-dimensional, hierachical, stable, developmental, evaluative and differential. Findings indicate that the self concept is stable over time, but the content of

the self concept will vary, according to the developmental phase of the individual.

In order to realistically interpret results on the SSHI, some understanding of developmental changes is required, as scores on certain dimensions of self concept will be influenced. A precise prediction of changes in content of the self concept, because of developmental factors is difficult, since the circumstances of each pupil is unique.

The main component of the self concept of the pre-school child appears to be the physical self concept. The self concept is less structured and formed during early childhood and, so, more malleable and susceptible to change. The general self concept differentiates into multiple dimensions as the child matures (Shavelson, et al., 1976). Byrne and Shavelson (1986) found that the hierarchical structure of self concept weakens from late childhood to adolescence. The content of the self concept tends to be external and objective prior to adolescence.

Despite the re-evaluation and revision of the self concept during adolescence, it does not appear to become unstable. Engel (1959), in his classic study, showed that the self concept of adolescents remained stable over a two year period. Positive self concepts were more stable than negative over the two year period. Coopersmith, as quoted by Burns

(1979 : 177), confirmed the stability of the self concept after a three year longitudinal study:

"It (the self concept) appears relatively resistant to change. Once established, it apparently provides a sense of personal consistency over space and time, and is defended against alteration, diminution, and insult".

Coleman (1974) suggested that the incidences of identity problems in adolescence were less frequent than previously supposed because of the relative stability of the self concept. During adolescence, peripheral changes in the self concept occur (Byrne and Shavelson, 1986).

In the sample of 11 to 19-year-old adolescents developmental changes in self concept can be expected in the following areas: physical maturation, greater social contact with the wider society, a shift in identification from the family to the peer group, more abstract thinking, and more self-consciousness of the handicap. Self perceptions are extended to incorporate a wider range of social experiences. In individual cases, incidences in relation to schoolwork and social interactions are likely to influence particular dimensions of the self concept over a testing period.

## 2.8 SUMMARY

A definition of the self concept is given. Restrictions appear to be placed on the main sources of its development because of the impairment. The self concept is related to manifest behaviour and academic achievement. It serves an important function in the overall experience of the child.

The latest findings in the literature confirm the hierarchical, multi-dimensional structure of the self concept. By adolescence, it differentiates into the general self concept and multiple dimensions or components. The general self concept is a core, 'global' construct, which is the total combination of its components. Four components of the self concept are discussed. These are the physical, personal, social and academic self concepts. They are the theoretical basis for the construction of each section of the SSHI.

The self concept remains stable as the child matures. Changes in its content are attributed to developmental factors.

CHAPTER 3THE INFLUENCE OF HEARING IMPAIRMENT ON SELF CONCEPT  
DEVELOPMENT

Terms related to a hearing loss are initially defined in this chapter. The effect of certain consequences of the hearing loss on a child's self concept development are discussed. These are communication difficulties, parental attitudes, and social integration problems. The self concept development of the hearing impaired child and adolescent is considered in the context of Erikson's developmental theory. Finally, the implications of school-leaving for the adolescent are discussed.

3.1 DEFINITION AND EXPLANATION OF TERMS

The words 'impairment', 'disability' and 'handicap' are often used interchangeably in the literature. It is therefore useful to define these terms more clearly.

Hearing impairment can be defined as "any loss of hearing varying from slight to profound, affecting, according to its time of onset and severity, the ability of an individual to make normal auditory contact with his or her environment" (Lysons, 1984 : 3).

Hearing disability is a "limitation of performance in one or more activities which are generally accepted as essential components of daily living such that partial or complete inability to perform them necessitates a degree of dependence on a compensatory aid or another person" (Lysons, 1984 : 2).

A hearing handicap comprises the "disadvantages or restriction of activity experienced by an individual as a result of the impairment or disability" (Lysons, 1984 : 2).

In everyday speech, the term 'deaf' is used for all types of hearing impairment, irrespective of the severity of loss. Three factors that must be considered, when classifying hearing impairment are its severity, time of onset, and the development of speech and language. (Davis and Silverman, 1978). Regarding the severity of impairment, a basic distinction is between individuals who have a moderate to profound hearing loss, or who are 'hard of hearing'.

A person with moderate to profound hearing loss (i.e. 'deafness'), has a sense of hearing "that is non-functional for the ordinary purpose of life" (Lysons, 1984:4). He is likely to encounter problems typical of the 'deaf sub-culture' (Lloyd, 1985). This explanation of 'deafness' is subject to the opportunities to learn language and communicating from an early age. Given these opportunities the functioning of the 'deaf' person can be potentially normalised (Du Toit, 1986; Whetnall and Fry, 1964).

Sound is measured in decibels (dB). The zero, or reference for the decibel, is called the threshold of hearing which may be considered as the quietest pure tone, audible at a given frequency, to a person with normal hearing (Davis and Silverman, 1978).

For educational purposes, a distinction was formally made between 'deaf' and 'hard of hearing' pupils. A hearing loss can also be categorised as mild (approximately 25-55 dB loss), moderate (approximately 55-70 dB loss), severe (approximately 70-95 dB loss) and profound (greater than 95 dB loss) (Lysons, 1984). All decibel losses, referred to are measured in the middle frequency range of 500 to 2000 Hz. The ability to hear normal conversation becomes difficult if the loss is greater than approximately 55 dB.

Hearing impairment can also be classified according to the parts of the ear where the loss is located, e.g. conductive loss, sensorineural loss or mixed loss (Bradford and Hardy, 1979).

Hearing impairment may be 'congenital', i.e. occurring at or before birth, or 'acquired' after birth. From the standpoint of education and rehabilitation the distinction between pre-lingual and post-lingual impairment is important (Moores, 1978). Pre-lingual is the onset of the hearing loss prior to the development of language, i.e. before three years of age. Post-lingual is the onset of impairment at an age after the spontaneous acquisition of speech and language, i.e. older than three years.

### 3.2 CONSEQUENCES OF THE HEARING LOSS

Hearing has the following functions which are vital to mental health (Ewing and Ewing, 1961):

- It is significant in the development of speech and language.
- It is a continual source of information about events.
- It provides warning signals that are important to safety.
- It helps in the acquiring and maintaining of motor and physical skills.
- It forms an 'instinctively' based emotional link with the world, especially the feeling of social belonging and inclusion.

A hearing loss can result in the deprivation of the above functions, which has serious consequences for a child's overall growth. A severe hearing loss can be a dehumanising and limiting handicap.

Hearing, together with language, is the medium on which interaction with the environment is based. The hearing impaired child must rely on the supplementary senses of kinesthesia and vision (Felker, 1974). The child has to change his mode of functioning in order to accommodate the hearing loss, with the result that his self perceptions differ from normal people.

Studies of the psychology of the hearing impaired have examined personality characteristics associated with the loss of the auditory sense (Moores, 1978; Myklebust, 1964). Findings are controversial, as it is debatable whether

problems in psychological and social development are due to the hearing loss, or rather the deprivations that result from the hearing loss.

The hearing loss may not be the causal factor in negative self concept formation and social problems. Instead it may be the consequences of the handicap that disrupt self concept development: communication difficulties, delayed or insufficient language development, familial difficulties, and social isolation (Warren and Hasenstab, 1986). These deprivations result in socialisation problems and personal frustrations. In this study, the researcher adheres to the viewpoint that the consequences of hearing impairment result in lower self-esteem.

The factors contributing to self concept development are extremely complex. The constant repercussions of the handicap on the child, his family and all those with whom he makes contact can further limit self concept enhancement. A lack of acceptance of the handicap, from the child and others is partially instrumental in creating a fatalistic attitude, as if the world owes him something, with little feeling of personal mastery over life (Seligman, 1975).

### 3.3 IMPACT OF COMMUNICATION DIFFICULTIES ON SELF CONCEPT

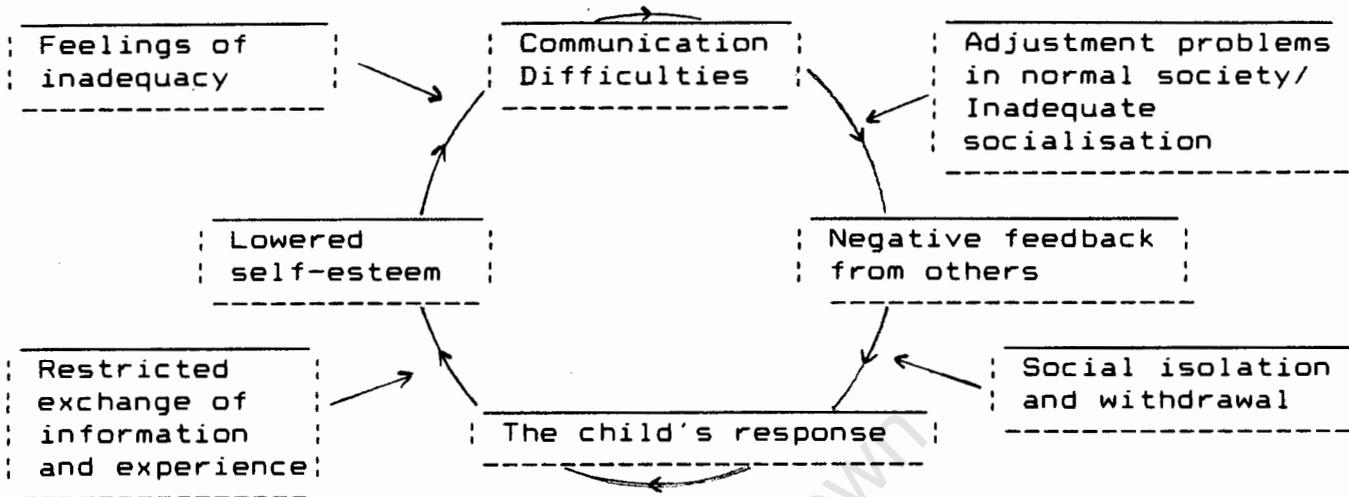
Fitts hypothesised that a higher level of communication proficiency is positively correlated with a healthy self concept (Goldenberg, Rabinowitz and Kravetz, 1979). Hearing

impairment primarily affects communication which pervades every aspect of life and every fundamental human need (Bonham, et al., 1981).

"The main problem of a hearing impaired child is the problem of communicating which is not only limited to the school, but exists after school in all spheres of their lives" (Saffarty and Katz, 1978 : 441).

Communication, and its different usages for the hearing impaired has been operationally defined (Bonham, et al., 1981). Verbal communication refers to the use of speech and sound in the exchange of information. Manual communication refers to the use of 'sign language', touch and vision in social interactions. Social communication refers to the way in which verbal or manual communication methods are used to meet the child's needs and also how they are used in the transferring of information. When the hearing loss is so severe that it interferes with communication, the hearing impaired child feels less capable than hearing children. If his perception of the responses of others suggest that he is faulty in communication, his self concept is affected accordingly. In turn, the 'kind' of self concept he develops influences the way he responds to others (Oyer and Frankman, 1975). The figure below represents the circular pattern in which poor communication maintains low self-esteem:

Figure 1: The impact of communication difficulties on self concept



Effective communication is vital to the formation of a positive self concept in the hearing impaired. Every child seeks confirmation and reinforcement through his interaction with others. With a profound hearing loss (greater than 95 db loss), it is possible that speech and articulation may be adversely affected. Conscious of poor speech and of his inability to modulate his voice, a hearing impaired person may be reluctant to speak. Thus, the hearing child's social interaction with the hearing population becomes seriously limited, with resultant negative self-evaluations.

Titus has proposed that the child's association with others takes the form of 'action and 'reaction', instead of interaction, because of the hearing loss and communication difficulties (Lloyd, 1985). An unnatural separation between self and others can occur. Even though hearing impaired children may learn to talk and communicate with others, the fact that they cannot hear another person's speech, limits their ability to take the role of the 'other', an important aspect of self concept development (Burns, 1982).

Interference with communication can lead to anxiety, which further depletes the communication skills of the child. The need of many hearing impaired children to continually have their efforts to communicate re-affirmed may reflect anxiety and poor self-esteem, as well as the basic need to learn communication skills (Goldenberg, et al., 1979).

Thus, there are indications that communication difficulties appear to result in a negative self concept, unless preventative measures are undertaken.

#### 3.4 PARENTAL ATTITUDES AND SELF CONCEPT DEVELOPMENT

The establishment of trust with parents is essential for positive self-evaluation (Hamachek, 1988). Parental attitudes have significant influence over self concept development. According to Nolan and Tucker (1981), parents differ in the attitudes they adopt toward their handicapped child:

- Acceptance of the child's handicap.
- Rejection of the child.
- Denial of the consequences of the impairment.
- Overprotection.

The most desirable attitude is to accept the child's impairment and approach his problems in a productive and realistic way. Hearing impaired children from rejecting family backgrounds have been found to score lower on self

concept measures (Garrison and Tesch, 1978). Acceptance by parents and family promotes higher self-esteem (Yachnick, 1986).

Parents are the primary educators of the child. When parents have a positive perception of themselves, they are able to communicate this to the child. The greatest contribution that parents can make, is to assist in the formation of a positive sense of self in the child, and in the acquiring of language at the formative stages of development (Bochner-Johnson, 1985).

Stress periods that influence parental attitudes during the growth of their hearing impaired child are (Ogden and Lipsett, 1982):

- The initial discovery that their child has a hearing loss.
- The entrance into the school environment.
- The beginning of adolescence.
- School-leaving and early adulthood, i.e. finding an occupation.

Each transition is instrumental in extending the self into wider social contexts, and requires a higher degree of independence.

Negative parental attitudes and excessive control restrict independence and are detrimental to a positive self concept (Amoroso and Ware, 1986). Yet, the apparent vulnerability of

a hearing impaired child or adolescent can elicit over-protectiveness and restrictive parental attitudes.

Overprotection at home reinforces the belief of personal inadequacy and dissociation from the usual responsibilities assigned to hearing people (Degrell and Ouellette, 1981).

Thus, parents are largely instrumental in determining the positive or negative direction of self concept development in their hearing impaired child.

### 3.5. LACK OF ADAPTATION IN THE HEARING SOCIETY

It is difficult for the hearing impaired to succeed in Western Society. Historically, they have been considered to be socially inferior and less capable (Bradford and Hardy, 1979). In this sense, the hearing impaired are a minority group in a society geared for the needs of hearing people. The feeling of marginality is increased by the social stigma and lack of tolerance toward the handicap (Lysons, 1986). The implications for self perception have been clearly stated by Coleman (1983 : 9):

"The self concept is affected directly through the child's awareness of and reaction to the socially stigmatised connotations of receiving a handicapped label. Such labels are also thought to alter others perceptions of labelled

individuals and hence indirectly affect children's self concept as they incorporate the social evaluation of others into their own self-judgement".

Hearing impaired children may come to regard themselves negatively because of the negative social connotations attached to the handicap. The 'invisibility' of the handicap tends to reinforce the social stigma. 'Differences' are noticed when the hearing impaired child attempts to communicate using speech, a hearing aid, manual communications or lip-reading. The response to these attempts are often derogatory, overprotective or paternalistic (Lysons, 1984).

Society tends to regard hearing impaired people as disabled and delegates to them more menial vocations (Goldenberg, et al., 1979). Low expectations from hearing people become unnatural limitations for the hearing impaired.

Restricted experiences and the inability to 'play' many roles creates critical problems in adult socialisation. The school-leaver tends to be unprepared for ordinary society and for a vocation (Ross, 1986).

One of the negative outcomes of limited social experience and expectations is low self-esteem. Hearing impaired children can come to believe they are inferior and, therefore, are less inclined to take initiative by becoming participating members

of society. They become what others expect them to be. Feelings of marginality and inadequacy are manifest in hostility or, on the other extreme, apathy (Altshuler, 1974; Moores, 1978). Expressions of insecurity and hostility are often apparent in the suspicion that they are being spoken about in a discriminatory manner by hearing people. Such beliefs create interpersonal barriers with hearing people.

The hearing impaired attempt to avoid the negative reactions of hearing people by reducing social participation, and so isolate themselves further. The comfort and security of the hearing impaired community substitutes for the more threatening and alienating 'hearing world' (Lloyd, 1985). Hearing impaired people may profess solidarity to their own group and exclude the wider society or act in the opposite manner by identifying with hearing people. Either choice is characterised by conflict. Integration in both settings is conducive to a realistic self concept, but requires great personal resilience.

It could be presupposed that 'hard of hearing' people would integrate into society, since the hearing loss is less severe, and language more developed. In reality, the self concept development of the 'hard of hearing' is disrupted by the fact that they are still considered 'disabled' by hearing people, and so suffer the consequences of the social stigma.

They also find it stressful competing and attaining the 'accepted' standards of hearing society (Lysons, 1984).

Thus, the hearing impaired meet enormous obstacles and require strength of character, if they are to succeed in their own right within society.

Burns (1979) has proposed three major factors essential for positive self-esteem: congruency between the self concept and self ideal, the appropriate internalisation of society's values, and the ability to realistically evaluate success or failure. An analysis of each function below, reveals that the attainment of realistic, positive self-esteem is disrupted, due to the lack of integration in society:

- Incongruency between a realistic self-image and the self-ideal is apparent amongst the hearing impaired, as they are unable to actualise their inner aspirations in normal society (Lloyd, 1985). The duality and perhaps, incompatibility between the social standards of the 'deaf sub-culture' and that of the hearing society, creates role and identity confusion (Erikson, 1974; 1980, Felker, 1974). Loeb and Sarigiani (1986:96) were startled to discover that hearing impaired children described their ideal selves as being lower on 'likeability' than their actual self concept. Children seemed to have resigned themselves to the finality of an 'unbreachable communication gap' with hearing people.
- The internalisation of society's 'judgement' is complicated by the social stigma and feelings of marginality.

- Evaluations of success and failure are conflictual and, perhaps, confused. Research has shown that hearing impaired pupils are distrustful of the consequences of success as it may lead to social ostracisation (Anthony, 1981).

Thus, it would seem that the real problem, coupled with communication difficulties, in the development of a realistic, healthy self concept for the hearing impaired, is that they live in a 'hearing world'.

### 3.6 SELF CONCEPT DEVELOPMENT OF THE HEARING IMPAIRED:

#### THEORETICAL BACKGROUND

The self concept development of the hearing impaired is discussed in relation to Erikson's proposed stages of human development. Erikson's psychosocial theory is useful, as it provides a conceptual framework for understanding self concept development (Erikson, 1974, 1980).

The theory is built around the idea that emotional-social growth progresses through different stages, each with its own particular ego accomplishments. The development of the person is considered to continue throughout the whole life cycle.

According to Erikson (1974), each individual passes through a succession of eight psychosocial stages, beginning at birth and ending in the retirement years. Five of these stages are

experienced during the first twenty years of life and are most pertinent to this discussion. They are presented in Figure 2:

Figure 2: Psychosocial stages of development (adapted from Erikson, 1974; Hamachek, 1988)

Stage	Age	Outcome gained from a successful resolution
1. Basic trust vs basic mistrust	Birth - 18 months	hope
2. Autonomy vs shame & doubt	18 months - 3 years	will power
3. Initiative vs guilt	3 - 6 years	purpose
4. Industry vs inferiority	6 - 12 years	competence
5. Identity vs identity confusion and diffusion	12 -20 years	fidelity

Erikson (1974) observed that each stage represents a psychosocial crisis or turning point. In all people there is a certain ratio between the positive and negative outcomes associated with each stage. A more positive ratio will help them in coping with later crises (Hamachek, 1988). Each stage builds on the psychological outcomes of the previous stage, although not in an inflexible manner.

When development proceeds normally, without unnatural trauma or deficits, the attitude of basic trust that develops during stage 1 helps children feel safe enough to expand the range and diversity of their experiences and, in the process,

develop an attitude of autonomy in Stage 2. Trusting their environment, and feeling the necessary autonomy to move freely in it, children reinforce the attitude of initiative associated with Stage 3. This freedom encourages the industry of Stage 4, an attitude that emerges as children learn productivity, to control their imagination and apply themselves to formal education. With the basic foundation laid in the the previous stages, the adolescent is ready for the enormous challenge of Stage 5, establishing an identity. The result is an overall development of the person with, if all goes well, an essentially positive self concept.

There may be difficulties, during any of the five psychosocial stages, that predispose the person to a higher ratio of negative ego qualities, such as mistrust, shame, doubt, guilt and inferiority. Subsequently, there is a higher probability of identity confusion and life adjustment problems.

A weakness of Erikson's theory has been the ambiguity of exactly which observable behaviours reflect a positive or negative outcome of each psychosocial stage. Hamachek (1988) has attempted to illustrate possible observable behaviours and implicit attitudes associated with each stage. His criteria will be most useful in evaluating the cumulative effect of hearing impairment on self concept development during adolescence (see section 3.7.5).

Garrison and Tesch (1978), in their review of the research literature on the self concept of the hearing impaired, observed that positive resolutions of Erikson's psychosocial crises was impeded by the following factors:

- Negative parental reactions to child's hearing impairment.
- Excessive parental restraint of the hearing impaired child's activities.
- Difficulty in communicating.
- Estrangement from hearing peers and teachers.

Researchers who have attempted to identify how hearing impairment affects the resolution of each stage have concluded that "it has generally been found that the deaf child seems to resolve each stage only partially or with delay" (Bonham, et al., 1981 : 806).

### 3.7 SELF CONCEPT DEVELOPMENT FROM EARLY CHILDHOOD TO ADOLESCENCE

A discussion follows of the five stages of development. Stages 1, 2 and 3 are more briefly dealt with, as it is stages 4 and 5 that have direct bearing on this study.

#### 3.7.1 Stage 1 : Trust versus mistrust

The basic task of infancy is to establish a sense of trust which will become a feeling of hope in the world. The self concept begins to develop, and continues to grow, from the earliest kind of experiences that the infant has with his surroundings and, particularly, with his mother.

The hearing loss plays an important part in how the self concept is formed and in the quality of bond between mother and child. As the infant is unable to respond to auditory cues of maternal affection and love, the mother's attempts to communicate are not reinforced (Ogden and Lipsett, 1982). The implicit message in speech of trust and reassurance may not be received by the infant. If non-verbal communication is not systemised, the sense of isolation from significant others can impair the establishment of basic trust. The situation is further complicated if parents have not resolved the shock reaction of adjusting to their handicapped child (Nolan and Tucker, 1981).

A lack of parenting and communication skills, combined with the infant's sensory deprivation, may contribute to a negative resolution of the first stage of development. According to Erikson(1980), the expression of basic mistrust is characterised by social withdrawal and suspicion later in life. Such behaviours are manifest in the hearing impaired population (Altshuler,1974).

### 3.7.2 Stage 2: Autonomy versus shame and doubt

The stage of autonomy is a time of experimentation between "holding on and letting go"; the ratio between "self expression and its suppression" (Hamachek, 1988 ; 357). The development of language from approximately eighteen months of age has been designated as the beginning of the self concept and self expression (Felker, 1974).

The hearing impaired child is in a paradoxical situation; he wishes to be close to his mother, but is separated from her because of communication difficulties. Thus, the differentiation of a separate self and, consequently, the ability to autonomously explore the environment is disturbed.

Parental reactions of over-restrictiveness or overprotection do not provide the child with the opportunities to establish autonomy.

When the hearing impaired child habitually loses in the 'struggle' for autonomy, behaviour can become hostile and unco-operative. Resultant aggressive and impulsive behaviour, and expression of emotions, has an adverse effect on cognitive growth and social adjustment (Knee, 1974).

### 3.7.3 Stage 3: Initiative versus guilt

Allport (1961) has described this period as the basis of self-esteem and self-expansion through active exploration of the environment, hopefully with the support of his parents.

Since the hearing impaired child is not able to express himself verbally through language, he does so through physical exuberance (Lloyd, 1985). Many safety limits are placed on the child at home and at school because of the concern for his welfare.

The child's initiative, enterprise and self-expression become restricted. He is unable to explore his environment in a self-reliant and independent manner, free from the continued control of others.

#### 3.7.4 Stage 4: Industry versus inferiority

The stage of industry is a time when the child learns to gain recognition by feeling useful and "satisfying an enormous curiosity, a wish to know" (Hamachek, 1988 : 357). Lloyd (1985) has proposed that the insulated atmosphere of the 'special' school in South Africa is not necessarily beneficial for self concept development.

At school, teachers can either reinforce a negative self concept or they can help to reverse this process and promote a more positive self concept for the child (Murphy-Berman, et al., 1987). Parents, teachers and peers provide feedback to the child which influence his feelings of competency.

During this period the contradictions between the expectations and standards of the hearing and 'deaf' communities begin to emerge. The hearing impaired child becomes more aware of the stigma of the handicap and conscious that there is a possibility of him having to reconcile himself to an inferior role in society.

Furthermore, his role models are usually either hearing parents or teachers with whom he can only partially identify, as they do not share the experience of the hearing loss (Moore, 1978). The majority of hearing impaired children do not have exposure to well-functioning, hearing impaired adults who can act as role models. Research has shown that hearing impaired siblings of hearing impaired parents are better adjusted than those of hearing parents (Garrison and Tesch, 1978).

If parents are unable to cope with their child, the situation is sometimes alleviated by sending him to boarding school where he can perceive himself more positively in relation to hearing impaired peers. An unfortunate aspect of early enrolment in boarding school (from 3 years of age) is the inconsistency of nurturant figures because of staff changes. Sex role identification is affected by a lack of stable male and female adult caregivers in the hostel (Knee, 1976).

Detrimental experiences with hearing people reinforce feelings of inferiority. The hearing impaired community can become the primary source of a sense of competency and industry. The hearing impaired pre-adolescent faces the tasks of adolescence without adequate preparation, because of accumulated developmental problems related to the handicap.

### 3.7.5 Stage 5: Identity versus identity confusion

Hearing impaired adolescents are faced with the same tasks of adolescent development as their hearing counterparts. They do not have the important tools of communication which help hearing adolescents in identity formation.

An examination of each of the main tasks of adolescence presented below reveals that hearing impaired adolescents are likely to have difficulties in development during adolescence (Bonham, et al., 1986 : 806):

- Learning to deal with emerging sexuality and sexual roles.
- Separating from the family and establishing an individual identity.
- Accepting their physical maturation and learning to control a 'new body'.
- Developing intellectual skills.
- Utilizing values and an ethical system.
- Achieving socially responsible behaviour.
- Achieving closer relationships with peers.
- Planning for the future.

The overall task of adolescence is to secure a firm sense of identity as a separate individual, by taking a new view of the self and by reviewing the self concept. The reorganisation of the self concept that occurs in adolescence may be the last chance to resolve negative outcomes of previous psychosocial stages.

Psycho-physiological changes during adolescence can be anxiety provoking because of a lack of understanding of the intensity of emotions, drives and desires (Felker, 1974). The hearing impaired adolescent often has impulsivity problems, as the language deficit does not give him socially approved means to express aggression and frustration.

The re-affirmation of his physical self and competency in the striving toward adulthood is diminished by a sense of incompleteness and difference from others, due to the hearing handicap. Perceived physical attributes are intricately connected with the development of the self concept. If the child is reared in an atmosphere where a hearing loss is stigmatised, an unsatisfactory integration can occur of the handicap into the self concept.

Parental neglect or overly high expectations based on denial of the handicap can generate self rejecting attitudes in the adolescent (Eskilson, et al., 1986). High self-acceptance is related to identification with parents who are loving and non-rejecting. A positive self concept is largely the function of an optimal balance of affection and control in the family (Amoroso and Ware, 1986).

There is a possibility of increased alienation of the hearing impaired adolescent from hearing people if his communication skills are not facilitated in the family.

Hank, et al. (1986) have proposed that shy and withdrawn adolescents are sensitive to an imagined critical audience that represents the values and norms of society. This belief validates their low self-esteem and unwillingness to seek social exposure. Hearing society could represent a perceived critical audience for the hearing impaired. Loeb and Sarigiani (1988:96) have aptly described the implications of such a social dynamic:

"It appears that communication deficits pave the way for social isolation, and this consequent isolation fosters shyness, often creating a vicious cycle for the child".

The 'deaf sub-culture' originated in the urgent need of the hearing impaired to nullify the communication barrier and to create compensatory resources for satisfying social experiences (Lloyd, 1985). The peer group offers a social milieu that hearing parents cannot provide. Within their sub-culture, the hearing impaired peer group develops its own moral and achievement standards, which are the framework of identity formation. The sense of belonging in the 'deaf sub-culture' may not solve his attempts to find an identity in hearing society. It can, in fact, contribute to identity confusion.

Identity confusion is associated with low self-esteem. In certain cases, the adolescent can try to restore self

validation by resorting to alcohol and drug abuse. Deviant and delinquent behaviour is sometimes directed at normal society, but usually also occurs within the hearing impaired community.

"Those adolescents whose self-esteem is not sufficiently nourished in conventional groups are likely to reject conventional norms and adopt deviant behaviours as a means of restoring their derogated self-image " (Eskilson, et al., 1986).

To a lesser extreme, the majority of hearing impaired adolescents feel self-conscious about their handicap and experience a loneliness and social isolation. If an adolescent cannot keep pace with age-related expectations, he is susceptible to feelings of apathy, shyness or loneliness.

"The incidence of loneliness peaks at adolescence and is often brought about by critical interpersonal difficulties which are especially prevalent at this period " (Mijuskovic, 1986 : 943).

The hearing impaired adolescent is unable to compete with hearing people and is perplexed by their reactions to his communication and socialisation attempts.

This view is expressed by an adolescent interviewed by Lloyd (1985 : 317) in her research study:

"Hearing people worry about unimportant things - your body, your appearance, but hearing impaired people are concerned with friends and communication".

Social isolation and communication difficulties associated with the handicap impose a feeling of helplessness against an unchangeable, discouraging set of circumstances.

"If no satisfactory goal is found, the adolescent falls into a state of boredom and aimlessness" (Mijuskovic, 1986 : 943).

Helplessness is the psychological state that frequently results when events are perceived as "unchangeable" (Seligman, 1975 : 9). From an early age, helplessness may be learnt, if the hearing impaired child's actions are not effective in eliciting an intended response. He may not have the chance to develop a sense of mastery over the environment, or synchrony with his parents. The inability to function according to the standards of hearing society reinforces the feeling of helplessness, inferiority, and the inconsequence of his actions. According to Seligman (1975:99), to the extent that either positive or traumatic events appear uncontrollable, the adolescent is "predisposed to depression, ego strength is undermined ", and self-esteem is lowered.

Murphy-Berman et al. (1987) have summarised the major stereotypic behaviours ascribed to the hearing impaired:

- (i) Egocentricity.
- (ii) Impulsiveness.
- (iii) Social immaturity .
- (iv) Rigidity in thought processes.
- (v) Inflated ideas about one's own capacities and opinions others have of one.

The hearing impaired are also described as a group to be neurotic, irritable, suggestible, dependent, introvert, extremely controlled (Moores, 1978), to suffer from personality constriction because of limited language (Levine, 1956), lacking in abstract thought (Myklebust, 1964).

Of course, these findings must be regarded with reservation and caution because of inadequate research procedures, but they do give a general impression of difficulties that could be associated with identity formation. Hamachek (1988) has produced a description of behaviours likely to be associated with positive or negative ego development during the adolescent psychosocial stage. The characteristic behaviours of identity confusion, as given by Hamachek (1988 : 359), are presented in the following figure:

Figure 3: Characteristic behaviours associated with identity confusion in adolescence

-----  
 Characteristic Behaviours of People Who have a Sense of Identity Confusion  
 -----

They:

1. Tend to have an unstable self concept marked by ups and downs.
  2. Tend to set short-term goals, but have trouble establishing long-range plans.
  3. Are more susceptible to the shifting whims of peer pressure influences.
  4. Tend to have rather low levels of self-acceptance.
  5. Are apt to have trouble making decisions, fearing that they will be wrong.
  6. Tend to have a somewhat cynical attitude about themselves, others, and life generally.
  7. Tend to believe what happens to them is largely out of their hands, a matter of fate or breaks.
  8. Are inclined to seek self-acceptance indirectly by being what they believe others want them to be.
  9. Are inclined to have trouble being physically and emotionally close to another person without being either too dependent or too separate.
  10. Tend to be cognitively inflexible; since their sense of self resides heavily on being "right".
- 

When these behaviours are cross-indexed with qualities ascribed to the hearing impaired earlier in the discussion, identity confusion seems to be indicated. Symptoms of identity confusion are the accumulated by-products of negative outcomes of the four preceding stages:

"Identity confusion is more than not just knowing who one is (identity); it is not knowing for sure what one can do

(initiative, industry); not knowing whether one can do what needs to be done (autonomy), and in some instances, not knowing whether anyone can be counted on to help (trust)" (Hamachek, 1988 : 360).

As abstract thought may be limited because of the linguistic deficit, adolescents are less capable of finding creative solutions to their circumstances and in evaluating their relationship to the world (Ginsburg and Opper, 1979).

Thus, hearing impaired adolescents, depending on opportunities provided, are more likely to have difficulties in establishing a sense of identity, than hearing adolescents of the same age.

### 3.8 SELF CONCEPT DEVELOPMENT AND SCHOOL-LEAVING

One of the major challenges in a hearing impaired persons life is the transition from school to work. The incongruency between the self concept and real possibilities in the working world is a serious obstacle in the personal growth of the hearing impaired pupils (Famugia, 1982; Ross, 1986).

Many hearing impaired children enter school at three years old and remain in this sheltered environment until late adolescence, either as day scholars or boarders. They commute between the familiar social milieu of the school and the home. Ironically, it is the very nature of these support

systems and the protected school environment that can isolate the pupil from the realities of working in the hearing society. A large proportion of school-leavers lack the social skills required in a job. Employers complain that hearing impaired workers are safety risks, difficult to train and inflexible.

Paradoxically, reverse prejudice leads many employers to overprotect workers, thereby reinforcing social isolation and feelings of inadequacy. Ross (1986) conservatively estimates a 20% unemployment rate for hearing impaired people in South Africa.

The hearing impaired pupil requires a realistic and positive self concept to cope with the change from school to work. Unfortunately, the direction of self concept growth does not indicate the high level of inner resources needed for such a demanding task.

### 3.9 SUMMARY AND DISCUSSION

The consequences of the hearing impairment are that they appear to deprive the individual of the opportunity for realistic, positive self concept development. The language deficit, communication difficulties, inappropriate parental attitudes and the inability to adapt to normal society, all contribute to feelings of inadequacy and low self-esteem. An evaluation in accordance with Erikson's theoretical perspective, indicates that the positive self concept

development of the hearing impaired child and adolescent, is subject to disruption.

An alternative view is that self concept development and identity formation of hearing impaired pupils simply differs from that of hearing pupils. Self concept development may be unique to the environmental conditions of the hearing impaired. Results based on norms for the hearing population could reflect a stereotypic, deviancy-deficiency model.

"The compensatory and restitutive mechanism available to the handicapped child has either been underestimated or neglected"

(Bowyer and Gillies, 1979 : 307).

Certainly, more conclusive evidence is required regarding the self concept development of the hearing impaired. What is apparent, is that hearing impaired pupils require assistance in many aspects of self conceptualisation.

CHAPTER 4THE SELF CONCEPT MEASUREMENT

The purpose of this chapter is to consider variables which could influence self concept measurement.

The methodological problems in self concept measurement are first presented. Second, the issues surrounding the use of self concept scales in the hearing impaired population are discussed.

Inconsistent and unreliable findings have often been due to the confounding effect of these issues.

Third, a review of recent literature is conducted with the purpose of highlighting factors related to self concept measurement of the hearing impaired. Particular attention is given to findings which are useful in improving the methodology applied in the development of the SSHI.

4.1 METHODOLOGICAL PROBLEMS IN SELF CONCEPT MEASUREMENT

The major problems are :

- The use of inadequate methodological procedures.
- Limitations of self-report techniques.
- The influence of response sets and styles.

Each of the above are outlined in detail in the sections which follow.

4.1.1 Inadequate methodological procedures

The empirical study of the self concept has been in a "parlous state and presents any investigator with untold difficulties in attempting to synthesise and collate reliable

and valid information" (Burns, 1979:72). Most studies have lacked a clear theoretical basis, have used inferior measuring instruments and inappropriate methodological procedures (Byrne and Shavelson, 1986).

Research literature reveals considerable variation in measurement procedures. Investigators differ widely in their theoretical orientation and the interpretation they apply to the self-referent terms they wish to study. Ambiguity and interchangeable use of terms, implies that researchers are not always measuring or studying the same construct (Wylie, 1974).

Many researchers have developed their own psychometric instruments, without clearly establishing reliability and validity. Opportunities for replication are not feasible, as the tests are hard to locate or inadequately described.

An intrinsic theoretical limitation in self concept studies is that phenomenological theory appears inappropriate for stimulus-response experimental design. Research on the self concept mainly employs correlation designs, which make it difficult to substantiate cause and effect relationships between variables (Byrne, 1984; Wylie 1974).

#### 4.1.2 Limitations of self-report

Self concept measuring instruments tend to be scales of the self-report type, as these provide the best means of

assessing how the individual perceives himself. Self concept theorists believe that "one cannot understand and predict human behaviour, without knowledge of an individual's conscious perceptions of his environment and of his self, as he sees it in relation to the environment" (Wylie, 1974 : 9). This phenomenological approach implies that the individual is his own best vantage point. Allport (1961) has argued that a person ethically has the right to be believed when he reports on himself.

The majority of studies of the self concept depend on a measuring instrument in which the child gives information about himself. The weakness of self-report techniques is that it requires the child to respond truthfully and willingly, an approach which he may not produce. (Maloney and Ward, 1982). In society, it is sometimes customary and even necessary to hide one's feelings. Accuracy of self-report depends on the co-operation and motivation of the child who can deceive if he wishes to.

Combs, Soper and Courson argue that many studies purporting to measure self concept are actually studies of self-report (Burns, 1982). The closeness of approximation of self-report and self concept depends on the following factors:

- The clarity of the child's awareness:

The extent of the child's self-knowledge and insight into himself and his circumstances, influences the ability to report on the self.

- The availability of adequate symbols of expression:

The level of language and communication development influences the degree of understanding of test items.

- Social expectancy:

In certain cases children tend to conform to expected social standards when responding to items on a self-report scale.

- The willingness of the child to co-operate:

Self-report can be distorted by factors such as dishonesty, carelessness or ulterior motives.

- The child's feeling of adequacy.

- The child's feeling of freedom from threat:

This is a particularly important factor for the hearing impaired who tend to be defensive toward self-disclosure (Yachnick, 1986). Assurance of anonymity could reduce defensiveness.

If the above factors do interfere with the reliability of self-report, measuring instruments may be producing questionable results. Investigations have shown that the responses of hearing impaired children to self concept scales, designed for ordinary children, is affected by their poor language ability and more limited social experience (Koelle and Convey, 1982).

The erroneous assumption that an individual is revealing an objective self-description can be avoided, if his responses are interpreted not at face value, but "as an act of verbal behaviour that is correlated with his inner nature" (Cronbach, 1970 : 506). It is this relationship between language and self concept, that makes it so imperative for a test to be constructed that takes into consideration the linguistic deficit of the hearing impaired.

Hence, self-report tests are of diagnostic value as opposed to an absolute measure of self-concept.

#### 4.1.3 Response sets and styles

Response styles are the child's dispositional tendencies in answering items (Huysamen, 1987). In previous research, response sets or styles were considered to be sources of error that must be eliminated from the data (Wylie, 1974). These test-taking habits of children were considered unrelated to the purpose of the measuring instrument and could affect reliable interpretation.

Examples of response sets are the tendency to be extreme, to acquiesce, to appear socially desirable, to be overly self-critical. The two major response sets are 'acquiescence' and 'social desirability' (Payne and McMorris, 1967).

Acquiescence is the tendency to agree with self-report items, regardless of their positive or negative content. It can cause erroneously high reliabilities, as it is a systematic

bias focused in one direction. Validity is lowered since responses are influenced in a way that may be irrelevant to construct measurement. Acquiescence can be avoided, by including positively and negatively worded items in a random order to prevent the child 'ticking' down the same column (Burns, 1979).

Social desirability is the tendency to attribute to the self concept socially desirable item choices and to reject those with undesirable values. It is extremely easy to falsify responses so that a 'good picture' is presented. Disclosure of a core area of the person, such as self concept, is more likely to elicit defensiveness, or the need to impress an outsider.

The alternative view is that response styles of the kind mentioned above represent a genuine attitude to the self. In more recent research, response styles have been regarded as legitimate, personal characteristics and styles that were of diagnostic significance (Maloney and Ward, 1982). While such tendencies do exist and serve to complicate the interpretative process, the general conclusion from research is that they are not as influential or interfering as presupposed. The unaccounted for variation in no way compares to the legitimate variation in self-report, that is of primary interest.

It follows from the above discussion that the design and administration of the SSHI should attempt to alleviate some of the problems related to deliberate and involuntary distortion in self-report. Interpretation of responses would also acknowledge the diagnostic value of individual response styles.

Hearing impaired children and adolescents tend to give socially desirable responses on self-report rating scales. Also, response styles may be characterised by 'defensive', unrealistically high self-evaluation to compensate for feelings of inadequacy (Yachnick, 1986). Lobel and Levanon (1988 : 122) distinguish between two kinds of high self-esteem: "true high self-esteem and defensive high self-esteem". Defensive high self-esteem is assumed to be motivated by a greater need for social approval and confirmation of worth. Hearing impaired children, because of the desire to gain approval from others, are more likely to disclose defensive high self-esteem.

Due to the language deficit and, also, limitations imposed by the handicap, younger hearing impaired pupils may simply have a naïve view of themselves and their circumstances.

Thus, the manner in which a self-report scale is completed, the hearing impaired child's reaction to certain items, and the overall pattern of his responses, are all of diagnostic significance in assessing self concept scores.

4.2. ISSUES ASSOCIATED WITH THE USE OF SELF CONCEPT SCALES  
ON THE HEARING IMPAIRED POPULATION

The major issues relevant in this dissertation are:

- The need for appropriate test content and construction.
- The importance of appropriate test instruction and administration.
- Possible problems in interpreting test scores.
- The influence of overt and covert examiner prejudice toward the hearing impaired pupil.

Each issue is discussed in the pages which follow.

4.2.1 The need for appropriate test content and construction

Special educators and researchers in the field of psychology have recognised the need for valid, reliable assessment tools and procedures for evaluating the self concept of the hearing impaired (Garrison and Tesch, 1978). Attempts have been made to adapt and modify instruments so that they are non-discriminatory (Koelle and Convey, 1982). This requires that the test acknowledge the specific limitations of the child, rather than penalise the handicap and reconfirm an already negative self concept cycle.

Items of a self concept scale should be representative of the hearing impaired child's life experiences, expected competencies and self-appraisal. It is the examiner's responsibility to adapt to the needs of the child and not to impose his assumptions (Levine, 1956).

Self concept scales presently in use have been designed for hearing persons. It is difficult to devise scales that meet the basic requirements for an appropriate test and also meet the special needs of the hearing impaired (Bragman, 1982). The most significant assessment problems have been identified by many researchers as related to language deficits of pupils.

"The presence of syntactic structures that would seriously interfere with a deaf student's full comprehension of an item would seem to increase measurement error since such items would tend to encourage random responding on the part of the deaf examinee" (Koelle and Convey, 1982 : 777).

There is a need to develop measures of self concept which avoid complex vocabulary and syntax. Furthermore, tests designed for hearing children contain situational complexities, which are outside the range of experience and ability of the hearing impaired child. There is no evidence to indicate that hearing impaired children can be compared with ordinary children on the basis of results obtained in a 'normative' self concept scale (Garrison, Tesch and DeCaro, 1978). The response of a hearing impaired child cannot be interpreted according to norms for a hearing person, since there is a need to behave differently under certain situations and circumstances.

Bragman (1982) describes three types of measuring instruments used with the hearing impaired:

- Tests developed for the hearing population. The majority of self concept scales presently in use fall into this category.
- Modification of tests that were originally developed for the hearing population. Koelle and Convey (1982) have investigated the reliability and validity of a modified version of the Piers-Harris Children's Self Concept Scale. Content validity can no longer be assumed in a modified test when the number of items is made smaller or varied. If in simplifying the language, the meaning of items is changed, a problem with construct validity could result.
- Tests developed specifically for the hearing impaired population. There is no evidence of an especially developed self concept scale for the hearing impaired.

#### 4.2.2 Importance of appropriate test-instruction and administration

Deprivations associated with a hearing loss can result in a situation that disrupts communication between the examiner and the child being assessed (Sattler, 1982). There can be a high incidence of misinterpretation of instructions given by the examiner and the task-response given by the child. For this reason, hearing impaired children do not respond productively to group-testing situations.

It is fundamental that the test instructions are effectively communicated to the hearing impaired child so that their responses are attuned to the requirements of the self concept test. Bragman (1982) has suggested a number of instruction methods utilizing different or combined communication modes: pantomime, demonstration, total communication, manual communication, speech or visual presentations. The preferred form of instruction is 'demonstration' by 'total communication'.

#### 4.2.3 Problems in interpreting test scores.

Yachnick (1986 : 309) has expressed his reservation about the interpretation of data obtained from self concept measures of hearing impaired pupils:

"There is no absolute value against which subjects scores can be measured to determine whether or not they have adequate self-esteem, partly because there is no agreed upon notion of what constitutes adequate self-esteem, no scale points from which deviation can be classified as too low or too high. Furthermore, normative data on this measure are not available for the deaf population".

Given the variety of measures used and the range of inconsistent findings concerning self concept levels among the hearing impaired, it is unclear whether the child

experiences difficulties in self perception, or if disparities in research findings represent an artifact of the measuring process (Garrison, et al., 1978).

Lloyd (1985) has concluded that it is difficult to distinguish between scores due to the linguistic deficit and those representing self-description. For this reason, she has preferred not to use available self concept scales in her own research, as the results could not be substantively interpreted.

#### 4.2.4 Examiner prejudice: The stigma of the handicap

Examiner prejudice influences the type of tests used in self concept assessment, the way in which the test is administered, and the interpretation of results.

Unfortunately, previous studies have propagated a deviancy-deficiency model, comparing hearing impaired pupils negatively against hearing population standards (Moore, 1978). Hearing impaired people as a group have been labelled in stereotyped ways, such as neurotic, rigid, impulsive, egocentric, socially immature, dependent (Murphy-Berman, et.al., 1987). Garrison and Tesch (1978) warned against the tendency to over-generalise negative findings. Findings were partly due to the self concept scales selected for use by examiners and researchers. It has already been previously discussed that these scales were based on 'hearing' norms and are, in many cases, inappropriate.

The hearing examiner is unable to experientially comprehend the implication of a hearing loss. He imagines what it is like to be hearing impaired (Moore, 1978). Problems and limitations dominate the imagination of the examiner so that he fails to realise how fully life can be lived despite a loss of hearing. Personal competencies and meanings of response styles on a self concept test may go unnoticed (Sattler, 1982).

Through limited training or educational opportunities, hearing impaired children are forced into a more dependent role, so, fulfilling observer expectations, but not their own capabilities. The examiner may believe that hearing impaired children are more dependent than they are, in order to resolve his own discrepancies in expectation. He may overlook behaviour and attitudes contrary to his expectations and unconsciously encourage stereotyped behaviour.

Titus found that hearing impaired children tended to give self-report answers they felt were expected of them, in an attempt to gain social recognition (Lloyd, 1985). If the examiner is projecting a stereotyped opinion of hearing impaired people, their responses on a self-report scale may reflect and perpetuate a 'deficiency' self-fulfilling prophecy.

Perhaps, the most serious consequence of the deviancy-deficiency model, is the impact it has on professionals

working with the hearing impaired. Wright has suggested two possible orientations that hearing people have toward hearing impairment (Sattler, 1982):

- A coping framework emphasising active engagement with life, while recognising limitations. This is a positive, realistic approach, which has been the underlying principle behind and motivation for developing the SSHI.
  
- A succumbing framework focusing on limitations. Examples of the succumbing framework amongst school psychologists are the 'spread phenomena' (Sattler, 1982) and diagnostic overshadowing (Schloss and Goldsmith, 1986). The spread phenomenon results in an underrating of the child's self concept based on a single predominant factor: 'deafness'. The negative evaluation of 'deafness' spreads to the whole child. Diagnostic overshadowing is the existence of a primary diagnosis, a hearing handicap, that alters treatment recommendations. Hence, examiner prejudice toward 'deafness' informs his diagnostic interpretation and self concept enhancement strategies. Murphy-Berman, et al. (1987 : 154) have further extended this argument by proposing a "perspective response set" amongst professionals. Professionals actually made an extra effort to make allowances for deviant behaviour and low self-esteem of hearing impaired children, to the extent that they did not attempt to alleviate the problem.

In this 'reverse bias', the child's behaviour was perceived to be normal for the 'deaf culture'. Professionals seemed to be responding to how closely hearing impaired children were following expected patterns; a belief that has been reinforced through inappropriate research technique and measurement.

Sattler (1982:73) has aptly stated the significance of examiner prejudice:

"If the assumption is made that handicapped children are very limited in what they can do, we are likely to place unnecessary restrictions on what they are allowed or encouraged to do; such restrictions may harm the child's development".

Hence, examiner prejudice plays an important role in the self concept measurement of hearing impaired pupils.

#### 4.3 REVIEW OF RECENT AND RELEVANT LITERATURE PERTINENT TO THE USE OF SELF CONCEPT SCALES ON THE HEARING IMPAIRED POPULATION

##### 4.3.1 Earlier Research (1978 to 1982)

Investigations of personality variables, and self concept in particular, in hearing impaired populations are often difficult to interpret, owing to a lack of knowledge concerning the adequacy or appropriateness of measuring instruments. Although experiences associated with hearing impairment have been predicted by various theoretical

perspectives to have negative effects on self concept development, attempts to measure such effects have employed different tests and produced inconsistent findings (Garrison and Tesch, 1978).

Garrison, et al. (1978) found that low levels of self-esteem, indicated by scores on the Tennessee Self Concept Scale, were due to a limited understanding of the language used in the test-items, rather than poor self-esteem. They concluded that results on the Tennessee Self Concept Scale cannot be considered as valid indicators of self perceptions. There is no evidence to indicate that hearing impaired students can be compared accurately with hearing individuals on the variables assessed in this self concept measure.

The validity of contemporary research by Goldberg, Rabinowitz and Kravetz (1979) and Safarty and Katz (1978), using the Tennessee Self Concept Scale, became questionable because of confounding variables related to this scale.

On the basis of these findings, Koelle and Convey (1982) modified the Piers-Harris Children's Self Concept Scale by simplifying the way items were worded. The modifications resulted in higher self concept scores which were considered to be more valid estimates. Koelle and Convey (1982 : 778) recommended that there is a "need to develop instrumentation

for use with the hearing impaired population that avoid certain syntactic structures".

Thus, previous researchers recognised the inappropriateness of self concept measures not designed or modified for the hearing impaired and experimented with alternative test formats.

#### 4.3.2 Review of Recent Studies (1985 to 1986)

The four studies examined in this section were selected for review because they highlight specifically the difficulties and issues associated with self concept measurement of the hearing impaired. The problems experienced with the use of self concept scales in these studies are considered. Additionally, the aims, methodology and findings of each study are discussed in terms of their meaningful contribution to the evolving understanding of the self concept of the hearing impaired.

The studies presented are:

- Lloyd's qualitative study.
- Warren and Hasenstab's empirical study.
- Loeb and Sarigiani's empirical study.
- Yachnick's empirical study.

Each study is reviewed in detail in the forthcoming discussion.

##### (a) Lloyd's qualitative study (1985):

##### Self concept of the hearing impaired in South Africa.

Lloyd has made a comprehensive contribution to the

understanding of the self concept of hearing impaired pupils in South Africa. Her descriptive study explores the influence of certain factors, particularly the family and the school, upon the development of the self concept. She preferred not to administer a structured self concept scale, standardised on hearing children, as the interpretability of scores is questionable. Instead, she used a less structured questionnaire to assess self perception. Each questionnaire was administered individually during interviews with pupils. In the interviews, pupils were encouraged to reveal their inner feelings.

After an extensive review of available research, and the assessment of parents, teachers and hearing impaired pupils, Lloyd (1985 : 374-378) came to the following conclusions:

- The hearing impaired child has difficulty in forming a positive self concept.
  
- The hearing impaired child in South Africa has no firm foundation to build a positive self concept because his sense of worth is lessened by unfavourable influences in the home and the school.
  
- The hearing impaired child's linguistic deficiency may hinder his development of self-awareness.

- The difficulty experienced by the hearing impaired child in developing self-awareness prevents the formation of self identity.
- The hearing impaired child evaluates himself negatively in comparison with his hearing peers because he has come to expect negative attitudes and feelings toward himself from others in his environment and these expectations are firmly fixed in his self concept.

The overall impact of the above factors is an unrealistic self concept which negatively affects self actualisation. Lloyd's study integrates and synthesises self concept theory as applied to the hearing impaired in South Africa.

Her concern for the predicament of the hearing impaired is sensitively expressed throughout the study:

"This research was motivated by the unfortunate lethargy which appears to exist concerning these problem areas and is an attempt to highlight the need for change".

Alternative methods of communication, parent guidance, child-rearing, education and career counselling, that could enhance self concept development, are proposed. The urgent need is emphasised for preventative and appropriate interventions.

(b) Warren and Hasenstab's empirical study (1986):

Predicting the self concept of the hearing impaired

Warren and Hasenstab (1988 : 290) identified three categories of variables in a literature review as having a possible relationship to the self concept:

- (i) Demographic variables: age, sex and socio-economic status.
- (ii) Variables related to hearing impairment: communication method, hearing status of parents, etiology of impairment, language and communication development.
- (iii) Parental child-rearing attitudes: 'disciplinarian' protective, indulgent and rejecting.

The purpose of their empirical study was to determine the combination of (i), (ii) and (iii) above, that would best predict the self concept in children with a severe hearing loss.

Warren and Hasenstab (1986 : 259) acknowledge that hearing 'impairment' remains one of the most difficult disabilities to research, as well as one of the most controversial to manage. The study was motivated by the need to gain more information that could improve rehabilitation programmes.

Forty-nine mainstreamed, hearing impaired children with a severe to profound hearing loss, between the ages of 5 and 11 years, were administered a self concept scale. A severe to profound hearing loss was defined as the inability to understand conversational speech through the unaided ear. The self concept measure was the Picture Game developed by Lambert and Bower in 1979; a 71-item, self-rating, picture choice test which does not rely on verbal ability, language sophistication or high levels of communication. Such a 'non-verbal test' was considered appropriate because of the variability of each child's communication abilities. On an earlier version, the Picture Game test-retest reliability coefficients ranged from 0,52 to 0,72 for boys, and from 0,53 to 0,77 for girls. No reliability and validity statistics were available for the form of the test used in the study, although the test developers claimed other researchers had established validity. Parents completed a parent-attitude scale to assess parental child-rearing attitudes.

Correlation techniques were used to determine the relationship between variables and the self concept. Results indicated that parental child-rearing attitudes appeared to be the best predictors of the self concept. Warren and Hasenstab suggest that the earlier the onset of hearing impairment, i.e. pre-lingual, the more problematic the formation of a positive self concept will be. The study supports the need for professionals to work closely with the family of the hearing impaired child.

An appropriate self concept measure has been used and the importance of its reliability and validity acknowledged. Through locating variables which best predict the self concept, psychologists and educationalists are informed as to where interventions would be most effective.

Limitations of the study are presented below:

- It is difficult to generalise findings because of the small population size, although Warren and Hasenstab acknowledge that the research was meant as an exploratory exercise.
- The relationship between academic achievement and self concept is not mentioned. Perhaps, this variable was not investigated in order to maintain the focus and boundaries of the study. Yet, school-related self perceptions and academic performance may be significant predictors of the self concept that are affecting, and interrelated with, the variables discussed in the study.
- The model of self concept is not discussed. It is not clear whether a global or multi-dimensional model is used. The construct validity of the Picture Game test is questionable, implying that interpretation of results are purely tentative. The procedure used in calculating the test-retest reliability is not specified.
- The researchers state that the earlier the onset of hearing impairment, the more likely it is that the child will have a negative self concept. Other studies have found that children with an early onset of hearing

loss are often better adapted because they compete less with hearing peers and society (Lysons, 1984). Possibly, they have more of an acceptance of the handicap as they have not known differently (Lloyd, 1985).

- Warren and Hasenstab's conclusions may not have sufficiently considered the influence of mainstreaming on children's self perceptions. Children's adaptation and self concept development is influenced by different demands and expectations in the integrated setting compared with a school for special education (Bradley and Hardy, 1979). Adjustment in the mainstream is interrelated with variables discussed in the study.

Although at first appearance, the study seems to have utilized adequate methodology and procedure, closer examination reveals the complexity and inconclusive nature of self concept research with the hearing impaired.

(c) Loeb and Sarigiani's empirical study (1986):

The impact of hearing a impairment on the self concept :

A comparative study

Loeb and Sarigiani considered the effect of age of onset and severity of a hearing loss on the self concept of hearing impaired pre-adolescents. They have chosen to focus on this particular area of research, as little information is available on the relationship between degree of hearing loss and self concept.

Their research objective is to assess self concept not only from the childrens' point of view, but from the perspective of teachers and parents. It was also the intention of the researchers to compare hearing impaired childrens' responses with visually impaired and with normal children.

A sample of 250 children between the ages of 8 and 15 years of age were selected of which 64 children were hearing impaired, 74 children were visually impaired and 112 had no significant sensory impairments. All the handicapped children were in the mainstream. The following structured psychometric tests were administered (Loeb and Sarigiani, 1986 :92):

- A "language-modified, shortened form" of the Nowicki-Strickland Children's Locus of Control Scale.
- A Q-sort technique previously used by Schwartz, Katz and Houchins in 1975 on the hearing impaired.
- The complete Piers-Harris Childrens' Self Concept Scale; according to the researchers it has been found to be an appropriate scale by Koelle and Convey (1982) for the hearing impaired.

The tests were administered individually or in groups of up to 10. Children were regularly asked if they understood the questions and were observed for signs of confusion or fatigue. In the case of hearing impaired children, tests were

administered, where necessary, in total communication. At the end of the testing children were offered a food treat and stickers.

It was found that hearing impaired children had a more negative self concept and lacked self-confidence, compared to the two other population groups. The comparison between visual and auditory handicaps provided further evidence that communication barriers appear to be the main source of problems in self concept development for the hearing impaired. Variables of sex, race, severity of hearing loss and age of onset were found to also have substantial impact. It is concluded that hearing impaired children need help in developing self-confidence, interpersonal skills and a positive self concept. While a severe hearing loss was not directly linked to a negative self concept, lower achievement and negative teacher evaluation "may signal difficulties still to come" (Loeb and Sarigiani, 1986 : 98).

The study has been useful in confirming the detrimental effects of communication difficulties and a language deficit on self concept development and social adjustment. The method of instruction used in test administration is in keeping with the needs of the hearing impaired (Bragman, 1982).

There are a number of serious limitations to the study. The researchers have not taken into consideration many intervening variables implied in the methodology of the study:

- According to Koelle and Convey (1982) a revised Piers-Harris Children's Self Concept Scale was appropriate with the hearing impaired, not the complete 80-item test used in the study. Results are, therefore, questionable.
- Locus of control theory and findings are not meaningfully integrated into the purpose of the research. In fact, the introduction of these measures confuses the reader.
- The sample is supposedly made up of pre-adolescents, but the age group of 8 to 15 years, implies that adolescents between the ages of 13 and 15 years participated, which introduces developmental variables that have not been considered.
- The 'treat' offered at the end of testing may have introduced motivational incentives that influenced the manner in which children completed the tests. If children knew of the 'treats' before testing began, the researchers could actually be measuring the motivational effects of reward on handicapped or non-handicapped childrens' responses to test items!

To their credit, Loeb and Sarigiani acknowledge the complexity of intervening variables in self concept development and emphasise the uniqueness of each child's life space. They suggest gentle and constructive interventions to encourage a more positive view of self.

(d) Yacknick's empirical study (1986):

The self-esteem of hearing impaired adolescents

Yacknick claims to have used the latest advances in quantitative and qualitative research procedures in his study of the self-esteem of hearing impaired adolescents. He acknowledges the need to control variables that are interacting with the self concept and to state explicitly how these were controlled. He justifies the use of the Self Description Questionnaire III (SDQ 111), developed in 1984 by Marsh and O'Neill, on the following basis :

"It (the SDQ III) is sophisticated enough to allow fine discrimination in the expression of subjective states, but it is also not so obtruse as to alienate and befuddle a person with basic high school reading skills"

(Yacknick, 1986 : 306).

The SDQ III requires at least a high school level of education for proper interpretation of items. It measures both global and multi-dimensional aspects of self-esteem. Since the self concept becomes increasingly differentiated with age, he felt that the multi-dimensional measure in the SDQ III was especially appropriate for the selected sample of older hearing impaired adolescents. The SDQ III has an established reliability and validity with normal adolescents. Yacknick argues that even though it was developed for hearing adolescents, results in the study were compared between two hearing impaired populations and not with hearing norms.

The 56 subjects were high-achieving college students from varied socio-economic backgrounds. The sample of students consisted of two groups; those with hearing impaired parents (N=28), and those with hearing parents (N=28). Other criteria in the selection of the adolescents were pre-lingual onset of hearing loss and a severe degree of hearing loss (less than 60 dB).

Public or residential school placement, socio-economic status and sex did not account for differences in self-esteem between the two groups. Yachnick attributes these results to the compensatory mechanisms of high-achieving hearing impaired adolescents.

The overall conclusion is that adolescents with hearing impaired parents had higher self-esteem than those with hearing parents. The interpretation of findings in terms of self-esteem as a multi-dimensional construct was more revealing than a global construct.

Yacknik interprets that lower self-esteem scores amongst adolescents with hearing parents were due to defensiveness in test taking and a lack of 'test sophistication'. He does not assume that self-report accurately represents self perception. His viewpoint in this regard is best expressed in his own words:

"Therefore, interpretations of the meaning of the reported self perceptions can only be hypothetical. A definitive interpretation will probably address both self perception and distortion of the expression of that perception as a consequence of conscious and sub-conscious defensiveness" (Yacknick, 1986 : 309).

In an attempt to further confront a possible misinterpretation of results, Yacknick warns against placing hearing impaired people into stereotyped categories, on the basis of highly specific research findings. Self concept scores may simply depend on the population sample and the kind of test used.

Yacknick addresses the issue of the lack of replication of research and follow-up studies that could establish a more conclusive empirical and theoretical paradigm for the understanding of the self concept. He cautions against the cul-de-sac in which so many self concept studies have ended:

"At this point, development of a cognitive set that one group is disadvantaged or that one group is advantaged with respect to self perception would only prematurely close the door to the much needed enquiries that, it is hoped, will follow these findings"  
(Yacknick, 1986 : 309).

Thus, Yacknick has made a major positive contribution to self concept research. His study has limitations in South Africa, as the language and conceptual construction of the SDQ III is too sophisticated for the South African hearing impaired population. The findings of the study are specifically related to hearing impaired high-achievers in the United States of America. Yacknick has essentially gone to the opposite extreme to other researchers; he has selected adolescents that 'fit' the self concept measuring instrument.

#### 4.4 SUMMARY AND DISCUSSION

An appraisal of the methodological problems associated with self concept measurement is helpful in providing information that can be utilised in the SSHI construction, its administration and analysis of responses to the SSHI.

The measurement of self concept of the hearing impaired has been plagued by inconsistent findings due to the use of inappropriate tests, inadequate procedures and because of covert assumptions regarding 'deafness'. It is essential that professionals are aware of the factors that can bias interpretation of results and intervention decisions.

Recent research has addressed the issues of self concept measurement and evaluation, but findings tend to be particular to the sample under study. Problems associated with the use of self concept scales have not been resolved. The complexity of intervening variables related to both self

concept development and hearing impairment, have made it difficult for researchers to generalise or interpret results.

In all four studies reviewed, investigators regard the major function of research as providing information that can contribute to improved educational practices and psychological intervention strategies. A limiting factor in achieving this function of research has been the unavailability of appropriate self concept scales. Implied within all studies is the indispensable value of assessing the child's or adolescent's feelings about himself as a prerequisite to deciding the most beneficial modes of rehabilitation.

An examination of the influence of hearing impairment on self concept in Chapter 3, and the issues associated with self concept measurement in this chapter, emphasises the need for a diagnostic instrument, such as the SSHI, which may give an indication of self perception from the hearing impaired pupil's frame of reference. An assessment of self perception could clarify which dimensions of the self concept require facilitation, in a manner that concurs with the life experiences and situation of the pupil. It becomes apparent that there is a dire need for a self concept scale that serves the following functions:

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- It attempts to obviate problems associated with the use of self concept scales on the hearing impaired population.
- It is developed in the context of the hearing impaired pupil's life-experience and norms.
- It has reliability and validity for the hearing impaired population.

One of the aims of the SSHI is to meet the above requirements.

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CHAPTER 5THE CONSTRUCTION AND ADMINISTRATION OF THE SELF CONCEPT SCALE FOR  
THE HEARING IMPAIRED (SSHI)

As an orientation to the chapter, the following topics are presented:

- The need for the development of the SSHI.
- The importance of constructing the SSHI in accordance with self concept theory.
- A justification of the usefulness of self-report techniques.
- An evaluation of the Likert technique utilised in the SSHI.

The actual construction of the SSHI is introduced with an outline of applicable test construction methodology and an overview of the procedures used.

Thereafter, the two major construction procedures are described in detail. First, the designing of the SSHI. Second, the selection and composition of items included in the SSHI. Finally, issues are exemplified related to the administration of the SSHI and the 'Questionnaire for Professionals and Teachers' which provides background information on pupils.

5.1. THE NEED FOR THE DEVELOPMENT OF THE SSHI

The construction of the SSHI is justified on the basis that no published self concept measuring instrument is available in South Africa, and possibly internationally, designed specifically for the hearing impaired. There is a great need for interventions with hearing impaired pupils to promote self concept enhancement. A measure is required that

fulfils the function of assessing which dimensions of self concept could require facilitation. Furthermore, research and meaningful interpretation of results depend on a reliable and valid self concept scale.

## 5.2 THE IMPORTANCE OF SELF CONCEPT THEORY IN THE CONSTRUCTION OF THE SSHI

If the test construction is to proceed systematically, clear and precise theoretical descriptions of the self concept are required. An extensive examination of the self concept of the hearing impaired child and adolescent has been conducted in the previous chapters for this purpose. Both design and content of the SSHI are based on the self concept theory pertinent to the hearing impaired.

Maloney and Ward (1982 : 329) emphasise the importance of 'closeness of fit' between the scale items and theoretical constructs assessed:

"Scale construction is a function of a particular theoretical concern, whether these are broadly or narrowly conceived. This necessitates a clear definition and specification of the dimensions involved and careful analysis of the relationship or fit between the particular items selected and various dimensions."

### 5.3 USEFULNESS OF THE SELF-REPORT TECHNIQUE

The aim of the SSHI is to measure dimensions of the self concept as accurately as possible. In contrast with the ability to achieve, measurement of self concept deals with existing feelings toward the self. The intensity of feeling is usually considered to be on a continuum between extremes. It is placing the child on the continuum in a specific area of self perception that is a function of the measuring instrument. A self-report scale is commonly used with items selected to represent various aspects of the self concept (Burns and Dobson, 1983). The obvious approach to gain information about self perception, is to consult the child himself. With all its limitations, a self-report technique can provide useful information. It is the primary method available for measuring the self concept.

"Psychology must concern itself with covert feelings in order to explain behaviour more adequately. At least the limitations and possibilities of such assessment (self-report) are known" (Burns, 1979 : 77).

Self-report scales yield an approximation of self concept. The information should be used as a guide, rather than prescriptively, with the examiner exercising caution in judging complex individuals (Wylie, 1974).

#### 5.4 LIKERT RATING SCALE TECHNIQUE USED IN THE SSHI

##### 5.4.1 Rationale for using a Likert-type technique

The most frequently used approach in measuring the self concept has been the rating scale technique of Likert (Burns, 1979). A Likert scale is a structured technique of self-report that is objectively scored, but it does not necessarily require a high level of language proficiency. A simple method of instruction and response is possible, which reduces problems in communication between examiner and pupil. Thus, such a scale could fulfil the requirements of a test for hearing impaired pupils.

Each item in a Likert scale is a set of statements.

The pupil indicates his response to an item by choosing one of the statements. Each possible answer is given numerical scores.

The statements in each item of the SSHI are scored so that the most positive self perception has the highest score. All responses are scored consistently in this manner. A total value is obtained through the algebraic sum of the scores of each item. The total value would indicate the 'level' of positive or negative self concept of the pupil.

##### 5.4.2 Shortcomings of other self-report techniques

Other self-report techniques have certain shortcomings which do not make them appropriate for use with hearing impaired pupils.

Check-lists and Q-sort techniques require too sophisticated a level of language and testing procedures are too complex. Hearing impaired children do not always have the ability to express themselves through written or spoken language on an unstructured, free-response technique, such as the Incomplete Sentence Blank.

Although interviews can be useful in assessing the self concept in a less structured manner (Lloyd, 1985), communication problems and examiner prejudice can distort the interpretation of findings. Furthermore, objectivity of scoring is not really possible in a free-response technique, or in an interview.

#### 5.4.3 Advantages and disadvantages of the Likert technique

The advantages of a Likert-type scale are the ease of construction, the objectivity of scoring and the range of positive or negative self perceptions that can be represented (Oppenheim, 1966). It is possible to include more diverse items that explore subtler and deeper ramifications of self perceptions.

A Likert-type scale has certain disadvantages. It makes possible the ranking of children on dimensions of the self concept, but the numerical value of responses are hypothetical. Total scores of similar numerical value can have different meanings. Many patterns of responses can produce the same score. The summation of scores tends to

obliterate the uniqueness of responses to each item and so, obscure important clues to understanding specific self perceptions. Since the same score can be obtained in different ways, "the pattern of responses becomes more interesting than the total score" (Oppenheim, 1966 : 140).

Furthermore, the 'neutral' or 'average' response for each item may not be the midpoint between two extremes. The response choice could be due to disinterest, a lack of knowledge, the presence of conflicting feelings or, simply, a lack of self perceptions in that area. Hence, a midpoint response is difficult to interpret.

Responses are contaminated by response sets. Acquiescence can be controlled by alternating positive and negative item choices (Lemke and Wiersma, 1976). A forced-choice inventory proposed by Edwards in 1957 can be used as a construction technique to control, specifically, social desirability (Neale and Likert, 1980). Such a technique requires too high a level of language and conceptual ability than is appropriate for the hearing impaired. It has already been discussed that the style of response is of diagnostic worth and not necessarily confounding results (Maloney and Ward, 1982).

Despite its disadvantages, a summated Likert self-report scale serves the necessary functions for measuring the self concept of hearing impaired pupils. Instruction and response methods can be simplified, and the format of the

scale structured to suit the requirements of the hearing impaired. Those limitations of the SSHI which are related to its Likert-type format can be taken into account when interpreting scores.

## 5.5 CONSTRUCTION PROCEDURE USED WITH THE SSHI

### 5.5.1 Theoretical methodology used in the construction of the SSHI

The SSHI was constructed in accordance with methodology proposed by Huysamen (1980, 1987) and Maloney and Ward (1982). The method most useful in the construction of the SSHI was the logical-keying approach, expounded by Huysamen (1987). This approach is a combination of the test constructor's knowledge and intuition, as well as the selection of items in terms of their relevance in representing the self concept. Items are selected and the test is constructed on the basis of a review of the literature. The most advanced methodology and the most error-free procedures will not produce a viable self concept scale, unless a sample of items is appropriate to the population being measured. A scale is as comprehensive and as valid as the items from which it is created.

Items chosen and formulated using the logical-keying approach form an item-pool approximately twice the number intended for the scale. After a careful selection process, about half of the item-pool is usually retained. These remaining items are further modified and refined for use in the self-report scale

under construction, in this case the SSHI. Thereafter, they are usually subject to further item selection strategies, based on the administration of the scale and analysis of results.

### 5.5.2 Overview of construction procedure

The construction of the SSHI began with an assembly of a large item-pool consisting of eighty items. A set of criteria, which is discussed in detail later in this chapter, was used to extract forty items from the large item-pool, for inclusion in the SSHI. These items can be classified into two groups: items modified from published self concept scales and those originally formulated. The design of the SSHI was refined and developed in conjunction with the item selection process. The SSHI is presented in Appendix B.

Thus, the construction of the SSHI can be defined as the parallel development of two interrelated procedures:

- Designing the SSHI.
- Selection and composition of items for the SSHI.

Each procedure is outlined in detail in the sections which follow. To ensure clarity of presentation, the discussion in this chapter begins with the design of the SSHI.

## 5.6 THE DESIGN OF THE SSHI

### 5.6.1 Design format

The SSHI has been designed as simply and as practically as

possible, without reducing its content and validity. This has been achieved by adapting methods from other published scales. Its design is structured in accordance with self concept theory outlined in Chapter 2, section 2.6. The figure below represents the design of the SSHI:

Figure 4 : Design of the SSHI

Section of SSHI	Item Numbers	Quantity of items	Maximum score	Minimum score
Personal self concept	1 to 4	4	12	4
Physical self concept	5 to 8	4	12	4
Academic self concept	9 to 16	8	24	8
Social self concept	17 to 40	24	72	24
Subsections:				
Teachers	17 to 20	4	12	4
Family	21 to 24	4	12	4
Peers	25 to 30	6	18	6
Hearing peers & society	31 to 40	10	30	10
General self concept	1 to 40	40	120	40

It can be seen from Figure 4 that items which represent a dimension of self concept are grouped together. Placement of items in this manner facilitates the SSHI scoring and review (Byrne, 1984).

The layout of items and sections are in a sequence that seemed most appropriate and least threatening. Each section blends meaningfully into the next. Greater emphasis has been

given to the social self concept, because of the significance of social relations in the self concept development of 11 to 19-year-old hearing impaired pupils (Hagbory, 1987). Twenty-four items in total are allocated to all aspects of social perception on the SSHI. For the population sample in this study, the subsection 'peers' is most likely composed of hearing impaired companions in the school. Ten items have been allocated to the 'hearing peers and society' subsection, owing to the importance of self perceptions in this area during adolescence (Bonham et al., 1981).

The 40-item length of the SSHI is not too cumbersome for completion by hearing impaired pupils, nor so short as to diminish reliability and validity (Lemke and Wiersma, 1976).

#### 5.6.2 Written Instructions

A set of simple written instructions have been included in the SSHI to control for inconsistencies in the communication of instructions by different examiners. The method of response is non-verbal and it is easy for pupils to do.

#### 5.6.3 Scoring system

The scoring system on the SSHI is structured to control for 'examiner prejudice'. Pupils' responses can be objectively scored without depending on the subjective opinion of the examiner. The SSHI can be scored fairly quickly (5 - 10 minutes) per pupil.

In order to reduce the complexity of the response and scoring systems, a three point rating scale was adapted from the Bledsoe Self Concept Scale (Wylie, 1974). A numerical value of '3' is assigned to a positive self perception, '2' to an average or neutral, and '1' to a negative self perception.

#### 5.6.4 Use of illustrated figures and attached statements

Every item in the SSHI consists of the three figures. The figure and the attached statement represent the continuum of positive to negative self perception in the item. Pupils are required to place a 'tick' or a 'cross' in the block underneath a figure to indicate their response choice.

Illustrated figures are male or female, attached statements are in English or Afrikaans, depending on the sex and first language of the pupil. There are four versions of the SSHI: English male, English female, Afrikaans male, Afrikaans female. When items refer to school-related self perceptions, figures are illustrated in school uniform.

A positive self perception is represented by an affirmative, descriptive statement and a 'smiling' figure. Similarly, a neutral response is, for example, indicated with the term, 'sometimes', in the item-statement and a neutral figure. A negative self perception is represented by a negative, descriptive statement and a 'frowning' figure.

An aim of the design of the SSHI was to produce a visually stimulating and unconfusing response method. The idea of using pictorial figures, with which pupils could identify, was adapted from the Children's Self Concept Index developed by Westinghouse Learning Corporation, New York (Burns, 1979). This test was designed for less verbally competent children, who were required to mark an 'X' in a block underneath an illustrated child-figure to indicate their response. A test-retest reliability over two weeks of  $r=0,66$  was obtained with a sample of 1 900 children using this method of self-report. The approach was developed and expanded in the SSHI to include a statement that each figure was supposedly saying. The figures were given happy, neutral or sad facial expressions, a non-verbal indication of self perception that was verbally represented in the statement 'attached' to the figure.

A similar non-verbal method of eliciting responses has been utilised in the Picture Game, a self concept measure already used in research with the hearing impaired (Warren and Hasenstab, 1986). The limitation of the Picture Game test is that it is difficult to tap specific dimensions of self concept because of the ambiguous nature of the picture cards used for its administration. The written statements that accompany the figures in the SSHI are more specific and less speculative than picture cards.

### 5.6.5 Descriptive information across sections of the SSHI

Certain items have been built into the SSHI which check the consistency of a pupil's responses. The technique used is to have similar items repeated later in the scale, only in a different form or with a slightly different meaning. Items serving this function are presented below:

<u>Items</u>	<u>Areas of Self Perception</u>	<u>Section of SSHI</u>
4 & 15	Classroom behaviour	Academic self-concept
27 & 30	'Different' or the 'same' as peers	Social: peers

Other items enable a comparative check across sections of the SSHI for diagnostic purposes of related areas of self perception:

<u>Items</u>	<u>Areas of Self Perception</u>	<u>Section of SSHI</u>
11 & 16	Academic performance	Academic Social: hearing peers
18, 29 & 39	Communication	Social: teachers, peers, hearing peers
20, 23 & 35	Communication	Social: teacher, family, hearing peers

### 5.6.6 Design of the SSHI versus projective techniques

In its structured design, the SSHI is not intended as a projective test. It is a structured, self-report scale that requires pupils to choose a response from three options per item. A common element of projective techniques is that they require the pupils to respond to a more or less unstructured, ambiguous stimulus situation, which allows for an indefinite number of responses and interpretations.

In most projective techniques, children are instructed to interpret external stimulus situations. These techniques are based on the assumption that in interpreting such situations, children will consciously or unconsciously reveal their personalities (Els, 1988). In certain incidences, projected psychological themes can be regarded diagnostically should these be volunteered by hearing impaired pupils during the administration of the SSHI.

## 5.7 SELECTION AND COMPOSITION OF ITEMS FOR THE SSHI

### 5.7.1 Assembly of a large item-pool

Eighty item-statements appropriate for the hearing impaired were selected or formulated according to the methodology already discussed in section 5.5.1. The item-pool was composed of modified items from self concept scales of sufficient reliability and, in most instances, of known validity. Also, items were formulated to tap self perceptions not represented elsewhere.

The items were administered to two 11-year-old hearing impaired pupils, two 14-year-olds, and one 18-year-old in order to assess if the wording and conceptual level were appropriate. Professionals working with the hearing impaired assisted in assessing the language level of items.

### 5.7.2 Criteria used in the selection and modification of forty items

Forty items were selected from the larger item-pool. Three

professionals working with hearing impaired pupils assisted in the selection of relevant items. This selection was according to the following criteria:

(i) Theoretical relevance:

Items were selected in accordance with the self concept theory pertinent to the hearing impaired. Items considered to be peripheral to the findings of research studies were not selected for inclusion in the SSHI.

(ii) The appropriateness of items for pupils:

An appropriate sample of items were included, which represent the experience and self perceptions of pupils. Should inappropriate items be included in the SSHI, they may inflate or prejudice scores obtained. If the items concentrate only on an area of life in which pupils feel incompetent, then that dimension of self concept could erroneously appear negative. Therefore, a fairly broad range of items is necessary to adequately represent the self concept of 11 to 19-year-old pupils.

(iii) The simplicity of language:

Those items which required language skills beyond the capacity of pupils were discarded. Many items were re-worded to ensure simplicity of language. Confusing and unnecessary terminology was avoided and an attempt was made to use vocabulary with which pupils were familiar. Items were meant to be explicit and convey the meaning intended. Longer items

with 'two-parts' had the 'parts' clearly distinguished to prevent confusion. An endeavour was made to exclude complex and very ambiguous items.

(iv) The extent to which items were interesting to pupils:

'Stilted', 'rational' statements were avoided so that pupils would find items interesting (Oppenheim, 1966). Self perceptions are charged with affective value. Boredom with 'flatly' composed items could reduce the motivation to respond to the SSHI.

(v) The extent to which an item directly represented a self perception

Statements which reflect the intended self perception too directly, where possible, were not included as they can elicit defensive responses. Indirect and oblique statements may express the same underlying self perception, yet correlate highly with the very direct version (Oppenheim, 1966). Simplicity of language had to take priority over the composition of indirect statements for certain items in the SSHI.

### 5.7.3 Modified Items in the SSHI

Presented below are the sources of items modified for inclusion in the SSHI. A few items have been extracted from more than one self concept scale.

Figure 5: Scales from which modified items on the SSHI have been selected (adapted from Burns, 1979)

Item number on the SSHI	Self concept scales from which items were selected & modified	Test-retest reliability	Validity
1 2 3 5-12 14 15 19 20 21 22 23 24 26 27 30 31 32 34 37 40	Piers-Harris Children's Self Concept Scale, Piers & Harris (1964).	$r=0,77$ (2 mths.)	Multifactorial Scale 0,68; correlation with Lipsitt's Scale.
5 7 9 10	Bledsoe Self Concept Scale, Bledsoe (1967).	$r=0,66-0,81$ (2 weeks)	Single factor scale; negative correlation with anxiety.
6 10 13 17 25 32 37	Self-Appraisal Scale, Davidson & Greenberg (1967).	$r=0,85$ (4 weeks)	0,51 correlation with teachers' criterion-rating on a sociometric test.
Item number on the SSHI	Self concept scales from which items were selected & modified	Test-retest reliability	Validity
7 12 28 34	Canadian Self-Esteem Inventory, Battle (1977).	$r=0,80-0,87$ (2 days)	No information.
17	Self Concept Scale, Lipsitt (1958).	$r=0,73-0,91$ (2 weeks)	Negative correlation with anxiety.

The sentence structure of certain items on the SSHI has been based on syntax used in statements of the Piers-Harris Children's Self Concept Scale and the Canadian Self-Esteem Inventory (Burns, 1979). For example: 'My teacher thinks.....', 'I feel different from most boys and girls'. Both affect and situation have been specified in statements where necessary: 'I am happy at school'; 'I am happy at home'.

The majority of items in the 'peers' and 'hearing peers and society' sections of the SSHI consist of two parts: a perceived experience or activity, and the social group to which it is related. For example, 'I feel different from most boys and girls' (peers), 'I play sport as well as hearing boys and girls' (hearing peers and society).

#### 5.7.4 Originally formulated items in the SSHI

Certain aspects of self concept development of the hearing impaired are not represented in published measuring instruments. To ensure a more complete representation of the self concept, a number of items has been especially formulated. Since communication with others has a profound influence on self conceptions, the following have been included in sections of the SSHI:

Item 18 : 'I can talk to my teacher' (social : teacher).

Item 29 : 'I can talk to most boys and girls'  
(social : peers).

Item 39 : 'I can talk to hearing boys and girls'  
(social : hearing peers and society).

Oppenheim (1966) is of the belief that it is not necessary to have all statements clear and unambiguous. Often a statement that is slightly ambiguous allows the pupil to 'cloak it' with meaning and, so, is of particular diagnostic value. Three items have been included with this purpose:

Item 20 : 'My teacher understands me' (social : teacher).

Item 23 : 'My parents understand me' (social : family).

Item 35 : 'Hearing boys and girls understand me'  
(social : hearing peers and society).

The word 'understand' can be taken concretely to mean the successful exchange of information, or clear speech and communication. Taken abstractly, it could reflect whether the pupil perceives himself to be misunderstood or understood by others.

A pupil's acceptance of his handicap is closely allied to self-acceptance. The realistic and satisfactory integration of the handicap into the self concept increases the possibility of positive regard, and acceptance toward one's personal characteristics. For many hearing impaired pupils the reliance on a hearing aid symbolises the degree to which the handicap and its consequences have been accepted (Moore, 1978). A hearing aid also makes the handicap visible to observers and exposes the pupil to the opinion of others. Through using a hearing aid, pupils with a moderate to profound hearing loss are provided with an important communication tool with hearing individuals, and a vehicle with which they are able to increase their level of achievement. The refusal to wear a hearing aid may suggest ambivalent feelings about the handicap and toward the self. On this basis, an item has been included in the SSHI:

Item 4 : 'I do not want to wear my hearing aids'  
(personal).

Positive regard from the teacher and a productive teacher-pupil relationship heightens self-esteem (Leonardson, 1986). A simply worded item has been composed to represent self perceptions of the teacher-pupil relationship and to avoid inappropriate and more sophisticated items used on other self concept scales:

Item 19: 'My teacher likes me' (Social: Teacher).

Since the internalisation of society's 'judgement' is a part of the developing self awareness of hearing impaired pupils, the negative connotations of an auditory handicap in society can influence their self perceptions. Consequently, they may evaluate themselves as inadequate, different or peculiar in relation to hearing people. In order to represent such a self perception, the following item was included in the SSHI:

Item 33: 'People think I am funny because I cannot hear well' (Social: hearing peers and society).

The hearing loss can limit the mobility of hearing impaired people and create a feeling of exclusion from normal events and situations (Lysons, 1984). A lack of confidence can contribute to a reluctance to attend commonplace situations. Such self perceptions are represented on the SSHI:

Item 36: 'I cannot go to the same places as hearing boys and girls' (Social: hearing peers and society).

Hearing impaired pupils often perceive their school performance comparatively with hearing children or with an

imagined set of standards in normal schools (Lloyd, 1985).

The following item has been included:

Item 16: 'I do schoolwork as well as hearing boys and girls'.

A factor maintaining social isolation is the insulation from the impact of the media in modern society. Television is an important part of socialisation within society. Professionals have assumed that the hearing impaired are less likely to watch television as it is a highly auditory medium (Liss and Price, 1981). In fact, recent studies have shown otherwise. Hearing impaired children watch television as much as ordinary children (Austin, 1984). Liss and Price (1981) found that the pattern of viewing was biased toward visual presentation. Item 38 of the SSHI has been carefully composed to reflect what television represents to pupils in terms of their contact with the wider society:

Item 38: 'I can understand television as well as hearing boys and girls' (Social: hearing peers and society).

#### 5.8. ADMINISTRATION OF THE SSHI

Until the SSHI is administered and scored, there is no empirical information about the adequacy of individual items or the effectiveness of its design. An analysis of pupils' responses generates evidence as to whether the items and design of the SSHI are confirmed, refuted or require revision.

The SSHI was administered in three schools for special education of the hearing impaired to pupils between 11 and 19 years of age, who were considered by the school psychologists to have the intellectual ability to understand and respond to the SSHI. The SSHI was administered to 253 pupils.

#### 5.8.1 Schools in which the SSHI was administered

A brief description is presented below of each school in which the SSHI was administered:

##### School 1:

This school is situated in Worcester. Its facilities presently accommodate pupils from 3 years of age in the pre-primary section to pupils of 23 years of age in the secondary section. In the secondary section, pupils can matriculate in the academic stream or alternatively, after completing standard 7, technical training is given in various trades. A total of 215 pupils presently attend the school of which 15 are day-scholars and the rest are boarders. Pupils are predominantly Afrikaans-speaking. They are from throughout the Western Cape and further afield.

##### School 2:

This school is also in Worcester and is composed of two divisions: the 'Deaf School' and the 'Hard of Hearing School'. The pre-primary section is common for both divisions. The facilities of the school presently accommodate pupils from 3

years of age in the pre-primary section, to those of 21 years of age in the secondary section. Pupils who have completed standard 7 are presently being technically trained in various trades. There is a total of 420 pupils in the school of which 243 are in the 'Deaf School' and 120 are in the 'Hard of Hearing School'. Pupils are Afrikaans-speaking and the majority are boarders. There are 18 day-scholars. Pupils from the Western Cape and throughout the country attend the school.

### School 3

This school is situated in Cape Town. It accommodates pupils from 3 years of age in the pre-primary section to those of 20 years of age in the higher standards. In the academic secondary section, pupils attend the senior classes which are equivalent to standards 6, 7 or 8. Those not suited for an academic education attend trade classes. Should pupils require a technical training in a trade at a more advanced level, they are accommodated outside the school. There are 310 pupils in the school of which 120 pupils are boarders. Approximately 40% of the pupils are English-speaking and 60% are Afrikaans-speaking. The majority of pupils are from the Western Cape, but pupils do attend the school from further afield.

### 5.8.2 Consultation with professionals

The purpose of the SSHI was explained and administration procedures were outlined to the head psychologist at each of the three schools. This was done to ensure that the SSHI was applied accurately and according to instructions provided. Where it appeared necessary, class teachers administering the SSHI were personally briefed by the researcher. Generally, the school psychologists supervised the administration of the SSHI.

### 5.8.3 Administration procedure

Test administration and instruction methods are subject to various types of error with the hearing impaired (Bragman, 1982). In the administration procedures listed in the next paragraph, everything possible was done to control for these errors. It was ensured that the SSHI was accompanied with clear instructions. Pupils had ample time to complete the SSHI. The SSHI was administered to a maximum group of ten pupils; usually group size was between five and eight.

The specific instructions and administration procedures are as follows:

- Pupils were encouraged to respond to items by indicating how they felt at the time.
- They were ensured of anonymity and that the SSHI was not an 'examination'.
- Professionals utilised whatever methods of communication were necessary and within special

school policy, to demonstrate the instructions and explain the meaning of items. The SSHI is not a test of language or communication ability and pupils were encouraged to request assistance in responding to items.

- In the case of pupils that were weaker in language proficiency, the SSHI was administered a single item at a time. Teachers were more able to provide personal help when the pace of testing was controlled. They were, also, in a better position to observe and prevent random responding and guessing.
- Instruction methods and testing were conducted in as non-threatening a manner as possible, to reduce defensiveness and suspicion.
- Pupils were required to complete all items with the exception of Item 24 i.e. if they had no brothers or sisters.
- They were allowed whatever time was necessary to respond to the SSHI. Generally, pupils took from 20 to 45 minutes to complete the SSHI.

#### 5.9 QUESTIONNAIRE FOR PROFESSIONALS AND TEACHERS

This questionnaire provided background details on pupils, as well as information on variables which could influence their responses to the SSHI. Although administering the SSHI anonymously may increase the reliability of results, anonymity makes it difficult to correlate the findings with related data about pupils, unless such data is obtained at

the same time (Burns and Dobson, 1983). Professionals were requested to complete this questionnaire in order to obtain such information.

The information available on the questionnaire has been only partially utilised in this dissertation. The remaining details are intended for use in more extensive research beyond the scope of this dissertation. The questionnaire is presented in Appendix C. Only the following details in the questionnaire were used:

- Identifying details of pupil.
- Details of hearing loss.
- A rating of a pupil's self concept.
- An evaluation of language development and communication.

Details provided by teachers on the questionnaire were checked for accuracy by the school psychologists. The psychologists and social workers answered sections where teachers did not have sufficient information.

#### 5.10 SUMMARY

The SSHI has been constructed according to a combination of systematic procedures that emphasise a thorough review of relevant research and theory. Items should represent appropriately the self concept of the hearing impaired. The design of the SSHI involved an assimilation and adaptation of formats used in published self concept scales. Items

included in the SSHI were modified from other scales or they were originally formulated by the researcher.

Administration and instruction methods were specified to meet the requirements of the hearing impaired, and to control for possible sources of error. A questionnaire was completed by professionals to provide background information on pupils.

University of Cape Town

CHAPTER 6THE RELIABILITY OF THE SSHI

An explanation is given in this chapter of test reliability. The major types of reliability estimation are considered, as well as the factors which influence their computation. Descriptive data, test-retest reliability findings and their interpretation are presented.

6.1 THE NEED FOR TEST RELIABILITY

A primary objective of psycho-educational research is to make a meaningful interpretation of results. In order to do this the measuring instrument must be reliable. No conclusive decision can be made on results, if the reliability of a test is not known. The need for determining the reliability of a measuring instrument designed specifically for hearing impaired pupils is of added importance. It is an ethical, as well as research issue, since inferences and intervention decisions are partially made on the basis of results obtained from such tests.

In self concept research far too little attention has been given to reliability estimates for self-report measures (Wylie, 1974). It is therefore necessary to proceed with a careful and detailed study of the most appropriate reliability estimate for the SSHI. In computing the reliability estimates of the SSHI, it has been possible to utilise techniques well established in previous research.

## 6.2 DEFINITION AND EXPLANATION OF RELIABILITY

The simplest definition of reliability is the degree to which a test yields consistent scores when the test or its equivalent form is applied repeatedly to the same subject. A more formal definition of reliability takes into account that most measurement contains some error (Huysamen, 1987).

Reliability is that part of the total test variance that is systematic or non-error variance; and unreliability, is that part of the total variance due to error, i.e. reliability is the proportion of non-error variance in a test score (Lemke and Wiersma, 1976).

Reliability ( $r$ ) can be represented as the ratio of the true variance to the observed variance :

$$r = \frac{\text{true variance}}{\text{observed variance}}$$

where observed variance = true variance + error variance.

If this equation is divided through on each side by the 'total' observed variance, then the equation can be restated as:

$$r = 1 - \frac{\text{spread of the error scores}}{\text{spread of the test scores.}}$$

(Burns and Dobson, 1983)

The symbol ' $r$ ' denotes the reliability coefficient that ranges from one (indicating perfect reliability) to zero (indicating the absence of reliability, measurement error only) (Wiersma, 1969). The magnitude of  $r$  depends on the error variance.

Random error is the extent to which SSHI scores have been affected by chance, irrelevant factors. It follows that a higher reliability will be obtained, when the error component of a score is small, as the 'observed' score will most closely approximate 'true' score.

Error variance arises from a number of sources:

- Error variance associated with the measuring procedure itself :  
Examples of these are problems intrinsic to self-report, ambiguities in the phrasing or content of items. A less obvious source of error is the assumption that a selected sample of items accurately represents the self concept.
- Error variance associated with the hearing impaired pupils tested and retested with the SSHI:  
These include temporal changes of individuals such as mood, test-fatigue, change of self-attitudes, social expectancy.
- Error variance associated with the conditions under which the testing occurred:  
Examples of confounding factors during administration of the SSHI are: inadequate communication of instructions and varied presentation of the SSHI amongst different teachers.
- Error variance associated with the scoring of the SSHI.

Reliability can also be expressed by the standard error of measurement which is derived from  $r$ . When interpreting a pupil's score, close consideration should be given to the standard error of measurement (Sattler, 1982).

For most tests of cognitive and special performance abilities,  $r = 0,80$  or higher, is generally considered acceptable (Sattler, 1982). A survey of existing self concept measures using self-report techniques reveals that an acceptable reliability is a more modest  $r = 0,70$  and higher (Burns, 1979). In evaluating the reliability of a test, the type of  $r$  used, the psychological construct under investigation, and the kind of test and method of administration, must be kept in mind.

"The goal of psychological measurement is not perfect reliability since, by definition, the nature of such measurement precludes this possibility. The goal is rather to see that unreliability of our instruments is kept within reasonable limits" (Maloney and Ward, 1982 : 61).

### 6.3 RELIABILITY PROBLEM IN SELF CONCEPT MEASUREMENT

Since the self concept is a personality variable as well as a phenomenological construct, it is more likely to be subject to changes over time associated with human variability.

The consistency and manner of pupils' responses to the SSHI

are influenced by human variability which, in turn, affects the estimate of reliability.

It is natural for pupils to vary within normal limits in their responses to the SSHI. The amount of variation expected, or considered normal, is obviously a function of the self concept and its particular dimensions.

Construct consistency and stability is an underlying precondition for the reliability of measurement (Byrne, 1984). The assumption is that a true score on the SSHI is a measure of a consistent construct: the self concept. Although the self concept is regarded as a fundamentally stable construct, certain of its dimensions do exhibit developmental change (Byrne and Shavelson, 1986). It has already been discussed in Chapter 2 that certain changes, in the content of the self concept, can be expected for hearing impaired adolescents, who are undergoing significant developmental growth.

When human variability is added to intrinsically related problems of self-report and test construction, the estimation of reliability assumes even greater importance in evaluating the value and use of the SSHI.

The method of reliability estimation should be matched with the kind of self-report scale under study and the underlying self concept theory. Stanley aptly states the problem, as

quoted in Wylie (1974 : 118):

"The empirical procedures are very closely bound with the logical aspects of the problem, so that one must first determine what is to be accomplished and what purposes are to be served by a measure of reliability. The empirical operations must be planned with these purposes in view and evaluated in the light of them."

#### 6.4 TYPES OF RELIABILITY ESTIMATION

According to Maloney and Ward (1982), the four main methods of reliability estimation are:

- Test-retest reliability.
- Equivalence reliability.
- Split-half reliability.
- Internal consistency reliability.

Each method yields specific reliability coefficients, with distinct meanings for interpretation of results. The Pearson Product-moment Correlation Coefficient is used as an index of reliability in the first three methods. A discussion of each method is presented in the pages which follow.

##### 6.4.1 Test-retest reliability

The procedure for obtaining a test-retest reliability estimate is to test the same individual on two different occasions with the same test, usually within a short period

of time (Huysamen, 1987; Sattler, 1982). The reliability coefficient obtained is an index of stability of the test over time. The test-retest is the preferred method of reliability estimation for self concept measures, which are theoretically expected to be relatively stable and consistent over time (Burns, 1979). As various aspects of the self concept are considered to be reasonably enduring, it is possible to calculate a reliability coefficient of stability for the SSHI.

The interval between test and retest should be of a sufficient length of time to obviate potential problems of practise, memory and other carry-over effects that can inflate the reliability coefficient of stability (Lemke and Wiersma, 1976). If the intervening period is too long, the correlation between test and retest can be depressed by real changes in facets of the self concept over time (Burns, 1979; Wylie, 1974). The following intervals for test-retest were used in this investigation:

School 1	:	34 days
School 2	:	28 days
School 3	:	33 days.

A period of four to five weeks will reduce 'carry-over' effects from the first testing to the second, but is short enough for most dimensions of the self concept to have remained relatively consistent.

The larger the test-retest interval, the lower will be the reliability figures. Hence, the reliability quoted for the SSHI must be interpreted according to the methodological procedure used in its computation.

The largest sources of error in the test-retest method are due to changes that occur within hearing impaired pupils from test to retest. Certain facets of the self concept may be uniquely affected by a pupil's experiences in the intervening time period. For example, poor results in a scholastic test at school or a confrontation with the teacher can influence academic self perceptions and distort self-report responses. Other sources of error are:

- Disinterest and lack of motivation on the retest, even though direct memory practice effects can be significantly reduced over four to five weeks.
- Distractions in the immediate environment during testing.
- Test anxiety with a resultant reluctance to realistically disclose the self concept.

As previously emphasised in Chapter 5, error variance associated with the administration of the SSHI should be carefully controlled, because of basic communication difficulties and, possible misunderstanding of instructions.

If not provided with adequate instructions pupils may regard the SSHI as a performance 'examination' of their abilities,

rather than a self-report measure. Such a belief would increase the likelihood of distorting variables, such as test anxiety and response sets (Yacknick, 1986).

#### 6.4.2 Equivalence reliability

Equivalent reliability is obtained when two equivalent tests are administered to the same candidate. The correlation between two parallel forms of the test is called the reliability coefficient of equivalence (Lemke and Wiersma, 1976). Its advantages over the test-retest method is that practice and memory effects are obviated. Parallel tests can be administered on the same occasion, or an equivalent form at a later date. As long as both item samples are adequately representative, the two forms of the test should produce similar results.

As the majority of items on the SSHI tap specific, discreet areas of self-evaluation, it was deemed inappropriate to construct a parallel scale, as an accurate item for item matching would have been difficult. Also, the length of each parallel scale may have been reduced because of difficulties in producing a sample of matching items for both tests. Thus, each dimension of the self concept would have been less represented by a smaller and probably insufficient range of items. It is easier to have comparable content on a cognitive performance test, than on a self concept scale. It would have been difficult to construct a genuinely equivalent

parallel scale and consequently, this method was not used to determine reliability for the SSHI.

#### 6.4.3 Split-half reliability

Split-half reliability is a reliability coefficient based on the scores of a single testing. The original test is split into two halves, usually on an odd even number basis (Maloney and Ward, 1982). Although the split-half method avoids some of the errors implicit in the test-retest method, it has certain limitations.

An intrinsic problem related to this method is that the test length is halved. The Spearman-Brown Prophecy Formula re-estimates reliability at the test's original length (Stanley and Hopkins, 1972). As in the estimates of equivalent reliability, the two halves must be matched on difficulty and content of items. Since items infer a specific self-evaluative response, it is questionable whether each half of the scale would be precisely equivalent. For example, item 38 that compares a hearing impaired pupil's understanding of what is viewed on television with that which a hearing pupil views on television, has no 'content' equivalent that can be placed in a comparable half of the scale. It would be inappropriate to split the SSHI into two equal halves.

For this reason, the split half procedure was not used in determining the reliability of the SSHI.

#### 6.4.4 Internal consistency reliability

The coefficient of internal consistency is the mean of all possible split-half reliability estimates. It determines the degree to which the item content of the scale is similar (Lemke and Wiersma, 1976). Although it is possible to compute the internal consistency reliability coefficient with a Likert-type scale, such as the SSHI, an analysis was deemed inappropriate because items are not necessarily comparable or similar. It would be doubtful that an internal reliability coefficient computed from scores on the SSHI would have much meaning.

### 6.5 RELIABILITY OF THE SSHI: EMPIRICAL FINDINGS

Test-retest reliability coefficients for the SSHI were determined for 198 pupils in three schools for special education in which the study was conducted. Scales incompletely filled in were not included in the analysis of results. Fifty-five sets of incomplete data were excluded from the sample of 253 hearing impaired pupils. Consequently, the responses of 198 pupils were used in the computation of reliability coefficients.

#### 6.5.1 Descriptive findings

During testing, pupils were not reported to be bored or disinterested in the SSHI. In fact, it provoked and stimulated an awareness of self perceptions. Pupils enjoyed completing it. The time required for pupils to complete the SSHI varied from 20 to 45 minutes.

In interpreting reliability results, Wiley (1974) emphasises the importance of examining the overall consistency of pupils in responding to items across test and retest. A very high frequency of response changes amongst pupils would indicate that they may not have understood items or the instructions. Perhaps, the incidences of random and inconsistent responding would explain a poor reliability. Thus, descriptive data has an important function in the interpretation of reliability results. The table below represents the consistency of pupils responses across test-retest on the SSHI:

TABLE 1: Consistency of pupils' responses; number of item changes across test-retest  
(Grouped frequency distribution)

No. of changes on retest	No. of Pupils (N= 198)
1 - 8	48
9 - 16	113
17 - 24	33
25 - 32	3
33 - 40	1

The majority of pupils (161 pupils) have responded differently on less than 16 items, indicating that the pupils have been fairly consistent in completing the SSHI. The remainder of the pupils (37 pupils) may have responded erratically, which could be a contributing factor to error variance in calculating reliability. It would be interesting to determine whether this group had lower self concept scores with associated response styles, or if they were simply

guessing. Wylie (1974) has noted that children with lower self-esteem tend to respond more erratically.

For the purposes of this investigation, the fact that the major portion of pupils have been reasonably stable in responding to the SSHI, can be taken into consideration when interpreting the test-retest reliability.

A descriptive examination of the stability of items on the SSHI is presented in the table below:

TABLE 2: Stability of items: As indicated by the number and percentage of pupils that changed their responses across test-retest

Dimension of self concept addressed	SSHI Item number	Number of Response changes by pupils	Percentage response changes
Personal	1	57	28,8
	2	54	27,3
	3	63	31,8
	4	49	24,7
Physical	5	59	29,8
	6	56	28,3
	7	55	27,8
	8	53	26,8
Academic	9	72	36,4
	10	48	24,2
	11	47	23,7
	12	69	34,8
	13	60	30,3
	14	41	20,7
	15	66	33,3
	16	80*	40,4
Social: Teachers	17	65	32,8
	18	64	32,3
	19	58	29,3
	20	69	34,8

Table 2 (cont'd)

Dimension of self concept addressed	SSHI Item number	Number of Response changes by pupils	Percentage response changes
Social: Family	21	46	23,2
	22	34	17,2
	23	40	20,2
	24	37	18,7
Social: Peers	25	61	30,8
	26	67	33,8
	27	86*	43,4
	28	57	28,8
	29	67	33,8
	30	77*	38,9
Social: Hearing peers and society	31	69	34,8
	32	74	37,4
	33	73	36,9
	34	80*	40,4
	35	63	31,8
	36	83*	41,9
	37	67	33,8
	38	55	27,8
	39	75*	37,9
	40	73	36,9
	N = 198	Mean	61,7
Standard Deviation:		12,5	

\*> one standard deviation from the mean

In general, there has been a higher frequency of response changes by pupils on the 'hearing peers/society' subsection of the SSHI. This is possibly due to ambivalence in self perception amongst the pupils toward social relations and experiences with hearing peers and people. The items in this subsection also make greater demands on the language ability of pupils.

### 6.5.2 Discussion of the items found to be the least stable

As indicated in Table 2, the following items were the least stable across test-retest (No. of response changes larger than one standard deviation from the mean):

\*Item 16: The comparison of academic performance with hearing peers.

Pupils were possibly uncertain as to how they compared scholastically with normal school standards. Defensiveness and the need to feel as competent as hearing peers could be influencing responses, rather than the inappropriateness of the item. The continued inclusion of the item in the SSHI is justified because of its diagnostic value in understanding an important aspect of self perception at school.

\*Items 27 and 30: The feeling of being the 'same' or 'different' from others.

Perhaps, the wording of these items is too ambiguous. It is possible to remove them from the SSHI, as their content is already reflected in Item 40.

\*Item 34: Playing the same games as hearing peers.

The ambiguity of the word 'games' may have been confusing. Also, 'games' may have different connotations for each pupil. On a closer inspection, each item statement consists of three parts : 'play', 'games', and a comparison with 'hearing' peers. A simplification of the item-statements is possibly merited, with more of a focus on social engagement with

hearing peers. For example, 'I play the same games as hearing boys and girls', can be modified to 'I play with hearing boys and girls'.

\*Item 36: Going to the same places as hearing peers.

Again, the word 'places' is ambiguous. The item-statements could be re-worded more simply and concretely. For example, 'I like to go to parties with hearing boys and girls'. A similar content of self perception is represented, but in a less complex and abstract manner.

\*Item 39: Communication with hearing peers.

The instability of the item is most probably due to its controversial content for pupils, rather than its syntax and terminology. The item-statements are clear and understandable. Pupils may have ambivalent self perceptions toward a very sensitive and often frustrating area of communication.

The majority of items of the SSHI appear to be relatively stable. The exclusion or improvement of items suspected of ambiguity and less stability, can only improve its effectiveness.

### 6.5.3 Test-retest reliability findings

Tables of results and an interpretation of results are presented in these sections. Results not included in the main text can be found in Appendix F.

TABLE 3: Test-retest reliability of the SSHI for the total population sample (N = 198)

Dimension of self concept addressed by section of SSHI	No. of items on SSHI	Reliability (r)
Personal	4	0,62
Physical	4	0,49
Academic	8	0,68
Social	24	0,67
Subsections		
Teachers	4	0,49
Family	4	0,72
Peers, hearing peers & society	16	0,69
Peers, Hearing peers/ society	6 10	0,53 0,70
Full Scale: General self concept	40	0,70

All the r coefficients in the above table are significant at the 0,001 level. The standard error of measurement (SE meas) of the full scale was found to be 7,5.

An adequate reliability ( $r = 0.70$ ) was obtained for the full scale. Since, as has been mentioned before, a reliability coefficient of 0,70 is considered to be sufficient for a self-report scale. The reliability coefficient for the full scale SSHI appears to be satisfactory. A relatively low standard error of measurement supports these findings.

It must be taken in consideration that in order to determine reliability and validity, the SSHI was administered to groups, when it is intended for individual diagnostic use by psychologists. Group administration is likely to have reduced reliability (Sattler, 1982). Furthermore, applying

the SSHI in a variety of different testing situations in three schools, implies the influence of a range of extraneous variables. The linguistic deficit, communication difficulties and general problems with self-report in hearing impaired populations should be taken into account when judging the value of the coefficients obtained.

The 'physical self concept' section and the 'teachers' subsection of the SSHI have the lowest reliability. It is possible that ambivalent self perceptions toward physical appearance or ability has resulted in less consistent responses on the SSHI retest. The small number of items in the physical self concept section may magnify the effect of response changes when calculating reliability. Daily contact and formative experiences with teachers in the intermediate period between test and retest may have influenced pupils' responses to the SSHI. Teachers have a significant effect on the self-evaluation of their pupils (Haynes, et al., 1987). In contrast, comparatively higher reliabilities have been obtained on other subsections representative of the social self concept, with the exception of the 'peers' subsection.

#### 6.5.4 Test-retest reliability coefficients across schools

Since each special school is a separate environment, it is informative to consider reliability results separately:

TABLE 4: Test-retest reliability of the SSHI across schools

Dimension of self concept addressed by section of SSHI	School 1 (N=53)	School 2 (N=83)	School 3 (N=62)
	r	r	r
Personal	0.71	0.62	0.54
Physical	0.26*	0.50	0.61
Academic	0.80	0.63	0.60
Social	0.75	0.67	0.68
Subsections			
Teachers	0.55	0.51	0.47
Family	0.82	0.63	0.75
Peers, hearing peers & society	0.73	0.70	0.69
Peers	0.53	0.49	0.54
Hearing peers/ society	0.73	0.74	0.69
Full scale: General self concept	0.80	0.64	0.76
SEmeas for full scale	5.9	8.7	6.6

All r's:  $p < 0.001$ , unless otherwise stated.

\*  $p = 0.06$

Reliability coefficients for the full scale SSHI vary from moderately low (School 2) to high (School 1). Variations in the school environments and possibly the different sample of pupils in each school could be contributing to the range of reliability coefficients obtained across schools. The reliability coefficient for the physical self concept section for School 1 is particularly low compared to the other two schools. The personal self concept section had lower reliability for School 3. Thus, results have varied for specific sections of the SSHI across schools.

The reliability coefficient obtained for school 2 should be interpreted with the knowledge that the school is divided into two : the 'hard of hearing' division and the 'deaf' division.

The reliability of each division of the school is tabulated in Appendix F (Table F (1)). Reliabilities of the 'hard of hearing' division, tended to be higher than those of the 'deaf' division, possibly because of language proficiency differences.

#### 6.5.5 Test-retest reliability coefficients across age groups

As the child matures, changes in the content of the self concept can be expected. Reliability coefficients have been computed for three age groups:

TABLE 5: Test-retest reliability of the SSHI across age groups

Dimension of self concept addressed by section of SSHI	Age groups		
	11-13 yrs (N=52)	14-16 yrs (N=86)	17-19yrs (N=55)
	r	r	r
Personal	0.66	0.62	0.54
Physical	0.48	0.55	0.34 <sup>1</sup>
Academic	0.62	0.66	0.79
Social	0.76	0.60	0.71
Subsections			
Teachers	0.55	0.53	0.40 <sup>2</sup>
Family	0.66	0.69	0.81
Peers, hearing peers & society	0.78	0.60	0.73

Table 5 (cont'd)

Dimension of self concept addressed by section of SSHI	Age groups		
	11-13 yrs (N=52)	14-16 yrs (N=86)	17-19yrs (N=55)
	r	r	r
Peers	0.62	0.48	0.52
Hearing peers/ society	0.77	0.58	0.77
Full scale: General self concept	0.76	0.64	0.75
SEmeas for full scale	7.5	8.1	6.7

All r's :  $p < 0.001$ , unless otherwise stated.

1)  $p = 0.01$

2)  $p = 0.002$

N = 196 and not 198 because data on two pupils on the 'Questionnaire for Professionals and Teachers' was incomplete.

The SSHI (full scale) has a moderate reliability ( $r = 0,64$ ) for 14 to 16-year-old pupils compared with other age groups. This mid-adolescent phase is characterised by an increased emphasis on establishing an identity in the peer group and wider society (Burns, 1982). Responses on the subsections 'peers' and 'hearing peers/society' had the least reliability for 14 to 16-year-olds, possibly due to conflicting experiences and feelings in these areas. Greater exploration of the social arena could be resulting in less stable self perceptions (Lloyd, 1985). Communication difficulties and the stigma of the handicap may be resulting in a turbulent expansion of social experiences. Resultant incongruency between self perceptions and actual experience could be giving rise to ambivalent responses over the test-retest period on the SSHI.

Reliability coefficients for the personal self concept section decreased with increasing age. Greater demands are made on older pupils to integrate into society. This could be resulting in the likelihood of ambivalent self perceptions toward their personal characteristics in the intermediate period between test and retest. For this reason, older pupils may have responded less consistently to the SSHI on the retest.

A similar explanation can be ventured for the disappointingly low reliability coefficient for 17 to 19-year-olds on the physical self concept section. Physical maturity during late adolescence could create higher expectations from hearing people to be competent in ways which are difficult because of the handicap. Since the attitude toward the body image may be undergoing re-evaluations based on the reactions of others, it is possible that consequent fluctuations in self perceptions over the 5 week period has resulted in less consistent responses by older pupils on the retesting of the SSHI.

It is surprising that responses would be so inconsistent on the retest amongst 17 to 19-year-olds. This is perhaps an indication of the impact of increased exposure to hearing society on an aspect of self perception. Therefore, care should be exercised in interpreting scores of older adolescents obtained on the physical self concept section.

The general trend seems to be toward lower reliability on the physical self concept section for all ages.

As with the academic self concept, the SSHI measures self perceptions in relation to the family with greater reliability for 17 to 19-year-olds. A tentative explanation for higher reliability coefficient on the family subsection is that older adolescents have established their perceived relations with family members, whereas younger pupils are struggling with separation issues and, so, responded to items on the retest with less consistency.

An examination of reliabilities computed for age groups in each school indicates the need for caution in interpreting results. Reliability coefficients seem to vary with the population sample, rather than follow overall definitive trends across age and school (see Appendix F : Table F (2) - F (6)). It would have been suspected that the SSHI has lower reliability for younger pupils, because of their less developed language and communication abilities, but this has not been brought out by the findings.

#### 6.5.6 Test-retest reliability coefficients across degree of hearing loss, language and communication development, and sex

Since the reliability of the SSHI may be influenced by demographic and handicap-related variables, results are presented in the following pages, according to sex, degree of hearing loss, and pupils' level of language and communication proficiency.

TABLE 6 : Test-retest reliability of the full scale SSHI across degree of hearing loss

Severe (N=118)	Moderate (N=67)	Mild (N=12)
r	r	r
0.68	0.66	0.87

The degree of hearing loss for a pupil was rated in the accompanying questionnaire by professionals and class teachers working in the schools used in this study. The above categories of hearing loss were defined in accordance with those proposed in Chapter 3, Section 3.1. A 'severe' category of loss in Table 6 is taken to imply a hearing loss ranging from severe to profound.

The high reliability on the SSHI for pupils with a mild hearing loss is possibly due to a greater language proficiency in responding to the SSHI. The complete table is presented in Appendix F (Table F (7)) and indicates that all sections of the SSHI have higher reliability for pupils with a mild hearing loss, except the 'family' subsection. Perhaps, self perceptions related to the family are less consistent for these pupils because of frustrations caused by the inability to meet higher expectations from hearing family members. Despite less communication difficulties, ambivalent self perceptions associated with the family could be due to the problems parents have in understanding their 'hard of hearing' child (Goldenberg, et al., 1979; Myklebust, 1964). It is possible that changing self perceptions over the 5 week

period gave rise to less consistent responses to the family subsection of the SSHI on the retest.

TABLE 7: Test-retest reliability of the full scale SSHI across language and communication development

Poor (N=50)	Average (N=67)	Good (N=75)
r	r	r
0.62	0.67	0.81

Results confirm previous findings, that a higher language proficiency is related to greater test reliability (Garrison, et al., 1978; Koelle and Convey, 1982). Level of language and communication was rated by professionals on the accompanying questionnaire, according to standards relative to the hearing impaired pupils in the schools. Pupils with 'good' language and communication development had the advantage of understanding more easily test instructions and the meaning of items. Pupils with 'poor' language development responded consistently on test and retest ( $r = 0,810$ ) to the 'family' subsection (Appendix F, Table F (8)). Self perceptions related to the family appear to be relatively stable.

TABLE 8: Test-retest reliability of the full scale SSHI across sex

Boys (N=92)	Girls (N=106)
r	r
0.65	0.78

The difference between the above two reliability coefficients is not statistically significant, but it appears that on retest the girls seem to have responded to items on the SSHI with slightly more consistency than male pupils. The complete table is presented in Appendix F, Table F (9).

#### 6.6 SUMMARY

The adequate reliability of a test is essential prior to its use for assessment and research purposes. Test-retest reliability is the most appropriate form of reliability in the case of the SSHI.

A moderate to adequate reliability was obtained for the SSHI across the three schools. Variation in reliability coefficients between schools was attributed to differences in the type of pupil attending the schools and, also, variations in the different school environments.

Findings indicate that the reliability of the SSHI may well be influenced by the age, sex, degree of hearing loss, and language and communication proficiency of pupils.

The reliability of sections and subsections of the SSHI varied from  $r = 0,49$  to  $0,72$  for all pupils. The physical self concept section and 'teachers' subsection had the least reliability, and the 'family' and 'hearing peers/society', the highest reliability.

Factors that contribute to error variance may well be: misunderstanding of instructions and of items because of the language and communication deficit; changes within pupils from test to retest; response styles such as social desirability and defensiveness.

In conclusion, the SSHI appears to have overall adequate test-retest reliability ( $r = 0,70$ ) in measuring the self concept. The SSHI can be used with some confidence to consistently measure the self concept of hearing impaired pupils over a time period.

CHAPTER 7VALIDITY OF THE SSHI

This chapter begins with a definition of the concept of validity. Some types of validity are outlined as well as procedures used in their determination. The findings related to the validity of the SSHI are presented and discussed.

7.1 DEFINITION OF VALIDITY

Validity is generally defined as the degree to which a test measures what it intends to measure. Validity is defined in the context of the purpose of a test. The purpose of the SSHI is to measure the self concept. The definition and explanation of the self concept put forward in this investigation is the major starting point for determining the validity of the SSHI.

Cattell suggested that test validation is on a continuum from practical to conceptual validity (Lemke and Wiersma, 1976). On the practical end of the continuum, the focus is on a criterion with which to evaluate the validity of the test; and on the conceptual end, the focus is on the test, its content and construct validity.

7.2 CRITERION-RELATED VALIDITY

Criterion-related validity can be stated as the "accuracy with which scores on a test predict scores on the criterion of interest" (Huysamen, 1980 : 159). Criterion-related validity encompasses predictive and concurrent validity. Predictive validity is the ability of a test to predict

future behaviour and performance (Maloney and Ward, 1982). Concurrent validity refers to the "accuracy with which a test permits an identification or diagnosis of the current status of individuals" (Huysamen, 1987 : 36). Concurrent validity is always expressed in terms of the relationship between test scores and an accepted contemporary criterion. The correlation coefficient obtained from this relationship is the validity coefficient.

For the purpose of the SSHI, calculating concurrent validity is most appropriate. The SSHI is concerned with a present identification and diagnosis of self concept and so can be validated against an appropriate criterion.

The relationship of the self concept to personality traits, social adjustment and manifest behaviour, has not been empirically or conclusively established in research on the hearing impaired. The use of these variables as comparative criteria would have been dubious (Garrison and Tesch, 1978). As no other appropriate self concept scales are available as a criterion, concurrent validity is demonstrated against professionals' criterion-rating of their pupils' self concept. It was deemed necessary to attempt such an approach in establishing concurrent validity, notwithstanding the possible subjectivity of the criterion measure.

### 7.2.1 Procedure for establishing concurrent validity of the SSHI

Three criterion-ratings of self concept were completed by different professionals who were in personal contact for a sufficient period with the pupil. Three ratings were obtained for each pupil to guard against observer bias, and to obtain a mean rating that may be a more accurate than a single impression. The class teacher completed a criterion-rating included in the 'Questionnaire for Professionals and Teachers' (see Appendix C). Two shortform criterion-ratings were completed by psychologists and other teachers who were in extensive contact with the pupil (see Appendix D). The 'questionnaire' and 'short form criterion-rating forms' were available in both English and Afrikaans. Due to administrative problems, only two criterion-ratings were completed for Afrikaans pupils at School 3. The criterion-ratings were scored as follows:

Rating of self concept :

	Very positive A	Positive B	Negative C	Very negative D	Incon- sistent* E
Numerical score:	5	4	2	1	None

As professionals were required to differentiate a positive or negative criterion-rating of self concept for each equivalent section of the SSHI, no 'average' response was included on the above continuum. Scores are adjusted to take this into account. An average score of (3) could result by calculating

the mean of three professionals' criterion-ratings for a particular section of the SSHI.

The 'inconsistent'\* response was included as an option for diagnostic purposes and was not used in scoring of criterion-ratings as no numerical value can be attached to such a description of self concept.

Scores from the category 'communication' in the criterion-rating have not been utilised in the computing of results in this dissertation. It is intended that information elicited from this category can be used in later research to further revise and refine the SSHI.

Since the dependability of teachers' criterion-ratings may be questionable, psychologists were requested to assess the level of dependability of teachers who completed the criterion-rating form (see Appendix E). A set of reference points (back page, Appendix E) were used to judge the dependability of teachers. Priority could thus be given to more dependable teachers' criterion-ratings when high variability between raters occurred.

Concurrent validity indicates if scores in the SSHI are related to professionals' criterion-rating of self concept. According to Burns and Dobson (1983), the failure to find such a relationship could be due to one of the following:

- Professionals' criterion-ratings are not acceptable or accurate, because of the subjectivity of the ratings.
- The same construct and behaviours are not being assessed by professionals' criterion-ratings and pupils' self-report on the SSHI.
- Low concurrent validity of the SSHI.

### 7.3 CONTENT VALIDITY

Content validity is an evaluation of if the SSHI has relevant content. To a large extent, content validity can be improved by the systematic planning and construction of the SSHI, already outlined in Chapter 5. A careful analysis of the self concept of the hearing impaired conducted in the theoretical study is essential in defining the domain of content of the SSHI. Therefore, content validity is the representativeness or sampling adequacy of items of the SSHI, in measuring the self concept.

Strong and Feder claimed that almost every self descriptive or evaluative response made by a person, about himself, can be considered a sample of self concept (Burns, 1979).

Obviously, the aim is to sample relevant aspects of self perception within the constraints of the structure of the SSHI.

### 7.3.1 Procedure for establishing the content validity of the SSHI

Content validity can be determined on the basis of expert judgement (Huysamen, 1987). A panel of six independent, expert judges rated the content validity of sections of the SSHI. These judges were post-graduate psychologists experienced in working with the hearing impaired. The content and objectives of the SSHI were outlined in detail to each judge prior to their completion of the content validity rating form presented in Appendix G. The content validity of the SSHI is not expressed in terms of a quantitative index, such as a correlation coefficient. Instead, it is evaluated on logical grounds by experts in the field.

### 7.4 CONSTRUCT VALIDITY

The determining of construct validity contributes to the validity of the SSHI since the two types of validity discussed in the foregoing pages have their limitations. Content validity relies heavily on the opinion of a panel of judges, while concurrent validity does not directly address the issue of relevant construct measurement (Maloney and Ward, 1982).

The construct validity of a test can be defined as "the extent to which it indeed measures the theoretical construct it purports to measure" (Huysamen, 1987 : 43). As with content validity, careful test construction contributes toward construct validity. Construct validity is an analysis

of the meaning of test scores in terms of self concept theory (Wylie, 1979).

A method of determining construct validity in self concept research is to compare the test under investigation with another self concept scale. Both tests supposedly measure the same hypothetical construct and should intercorrelate highly (Burns, 1979; Byrne, 1984). Since there are no self concept scales available in South Africa standardised on the hearing impaired population, it is not possible to utilise this method. Furthermore, because research relating the self concept to other variables has not been conclusive with the hearing impaired, it is doubtful if correlating the self concept ratings with other personalistic variables, will make a contribution to determining the construct validity of the SSHI.

#### 7.4.1 Procedure for establishing construct validity of the SSHI

Since comparative self concept scales are not available and other between-network techniques cannot provide conclusive results, an internal, exploratory factor analysis was computed from pupils' responses (Burns and Dobson, 1983; Byrne, 1984). The object of the factor analysis was to determine whether emergent factors corresponded with theoretical constructs as exemplified earlier in this dissertation and only for this purpose. Factor analysis is a useful procedure for exposing the underlying constructs associated

with the SSHI (Sattler, 1982). Through the factor analytic technique, information can be provided as to whether the SSHI is measuring the same dimensions of self concept as those that it intends to measure.

## 7.5 VALIDITY OF THE SSHI: EMPIRICAL FINDINGS

### 7.5.1. Concurrent validity of the SSHI

TABLE 9: Correlation of professionals' criterion-rating versus their pupils' responses on the SSHI

Dimension of self concept addressed by section of SSHI	r*	p
Personal	0,08	0,22
Physical	0,18	0.01
Academic	0,23	0.001
Social	0,30	<0.001
Subsections:		
Teachers	0,44	<0.001
Family	0,25	<0.001
Peers	0.21	0.003
Hearing peers & society	0.19	0.01
Full Scale	0.32	<0.001

r\* = Concurrent validity coefficient

p = level of significance

Although there is some agreement between criterion-ratings and pupils' responses on the SSHI, concurrent validity is fairly low. The correlation ( $r = 0,446$ ) on the 'teachers' subsection indicates that there is a fair correspondence between pupils' self perception and teachers' view of these perceptions. This is possibly due to the continued personal

interaction, specifically, between pupil and teacher that occurs in the classroom. Teachers may perceive more accurately the attitude of pupils toward them.

Low correlations between professionals' criterion-rating and pupils responses to the SSHI could be due to a number of factors.

First, there is not a direct relationship between observable behaviour and self concept. Pupils with similar self perceptions can manifest different behaviours. The difficulty of studying the concurrent validity of pupils' responses to the SSHI is that these do not necessarily correspond with behaviour. Self perception influences behaviour, but does not prescribe it. Despite attempts to control for variability in professionals' criterion-ratings in this investigation, the indirect relationship between behaviour and self perception precludes a higher degree of correlation between these two variables.

Second, the relationship between professionals' criterion-ratings and childrens' self-report is questionable. Correlations were low on Gordon's 'How I See Myself Scale', Combs, Super and Garrison's 'Self Concept Report-Scale' and Yeatts and Bentley's 'I-Feel Me-Feel Scale' (Burns, 1979). Recent research has shown the multifactorial and complex nature of 'teacher-judgement accuracy' in making inferences about their pupils (Colardaci, 1986). Poor communication

would certainly make it more difficult for a hearing professional to understand self perceptions of hearing impaired pupils.

Third, the demands of working with the hearing impaired creates a higher incidence of stress and 'burn-out' amongst professionals, which may make them less able to empathise with their pupils' experience (Meadow, 1981).

Table 10: Correlation of professionals' criterion-rating versus their pupils' responses on the SSHI across schools

Dimension of self concept addressed by section of SSHI	School 1		School 2		School 3	
	r*	p	r*	p	r*	p
Personal	0.02	0.84	0.24	0.02	-0.03	0.80
Physical	0.07	0.61	0.28	0.01	0.19	0.12
Academic	0.23	0.05	0.22	0.04	0.27	0.02
Social	0.03	0.81	0.58	<0.001	0.19	0.12
Subsections:						
Teachers	0.22	0.10	0.67	<0.001	0.29	0.02
Family	0.36	0.01	0.31	0.004	0.16	0.19
Peers	0.06	0.65	0.25	0.01	0.11	0.36
Hearing peers & society	0.01	0.90	0.42	<0.001	0.14	0.25
Full Scale	0.16	0.26	0.55	<0.001	0.23	0.07

r\* = Concurrent validity coefficient

p = level of significance

Higher correlation coefficients have been largely obtained for School 2 compared to the other two schools. Professionals' ratings in School 2 seem to have corresponded more closely and accurately with their pupils' self perceptions.

TABLE 11: Correlation of professionals' criterion-rating versus their pupils' responses on the full scale SSHI across age

11 - 13 yrs		14 - 16 yrs		17 - 19 yrs	
r*	p	r*	p	r*	p
0.25	0.07	0.34	0.001	0.41	0.001

r\* = Concurrent validity coefficients.

p = level of significance

From Table 11 it can be seen that correlation coefficients increase with age. The complete table is presented in Appendix H. Older pupils' self perceptions appear to concur more with professionals' inferences of self concept. It is possible that the teachers and professionals who did the ratings were in contact for a much longer period with older pupils. Therefore, they could have given a more reliable rating.

It is also possible that older pupils could have a higher level of communication proficiency and identify more closely with adult figures. These pupils may be more prepared to disclose their inner feelings to hearing professionals. Furthermore, there could be a higher congruency between self perceptions and behaviour amongst older pupils (17 to 19-year-olds), who are attempting to attain adult identity, as compared with their younger counterparts. Hence, professionals are more able to make accurate inferences about a pupil's self concept from behavioural manifestations.

Thus, fairly low concurrent validity, with the exception of School 2, has been obtained for the SSHI against professionals' criterion-ratings. Alternative criteria need to be developed for evaluating concurrent validity.

### 7.5.2 Content validity of the SSHI

A panel of expert judges rated the content validity of sections and subsections of the SSHI on the following continuum :

1	2	3	4	5
Poor	Some relevance	Mediocre	Adequate	Good

The table below represents the rating of each judge :

TABLE 12 : Content validity of the SSHI as rated by a panel of expert judges.

Section of the SSHI					
Judge	Personal & Physical self concept	Academic self concept	Social self concept		
			Significant others: Teachers & Parents	Peers	Hearing Peers & Society
1	Good	Adequate	Adequate	Good	Good
2	Adequate	Adequate	Good	Adequate	Adequate
3	Mediocre	Adequate	Adequate	Adequate	Adequate
4	Mediocre to adequate	Mediocre to adequate	Adequate to good	Adequate	Adequate
5	Adequate	Adequate	Mediocre to adequate	Adequate	Adequate to good
6	Mediocre to adequate	Adequate	Adequate	Adequate	Adequate

An inspection of Table 12 indicates that the majority of judges agreed on the adequacy of content validity for each section of the SSHI.

The panel rated the content validity of the full scale as adequate. This was calculated by substituting, in Table 12, the numerical values, of each rating, e.g. mediocre to adequate: 3,5. The ratings of each judge for sections of the SSHI, were added together horizontally, and divided by five. These resultant six values were summed and divided by six. The mean estimate (4,1), thus calculated, could be categorised as an 'adequate' rating using the above-mentioned continuum.

The panel of judges referred to above, made the following general comments regarding the content validity and usefulness of the SSHI:

- The SSHI is primarily useful as a diagnostic tool in revealing the self concept of pupils rather than only providing a 'score'.
- The conceptual and language ability of pupils must be taken into consideration, prior to administering the SSHI.

- Developmental issues related to adolescence may influence responses to the SSHI and the criterion-ratings of professionals.
- The illustrated figures in the SSHI may suggest to pupils a 'desired' response pattern, e.g. pupils may tend to select a 'happy' figure and not focus on the actual item-statement.
- They acknowledged the importance of compromising test length and content. They emphasised that diversity of content was important, but that test length had to be sufficiently short. They agreed that answering the SSHI was within the capability of hearing impaired pupils.
- Practical usage of the SSHI by psychologists and educators would indicate the extent to which hearing pupils were prepared to disclose 'on paper' their self perceptions.
- The SSHI is useful in revealing personal aspects of the pupil which teachers may have overlooked.

### 7.5.3 Construct validity of the SSHI

A factor analysis of pupils' responses to items of the SSHI was computed. Relevant data from the factor analysis is presented in Appendix I and J. Eleven factors were

extracted. There was a fair correspondence between factors and theoretically constructed sections of the SSHI. Since these findings indicate that the SSHI measures a number of dimensions of the self concept, evidence is provided that it is a measure of the multi-dimensional self concept, rather than a global construct.

The grouping of items under emergent factors is presented in the tables that follow. Only those factor loadings above 0,50 are included in each table.

Table 13: Grouping of items under Factor 10

Item No.	Item-Statement	Factor Loading
<u>FACTOR 10</u>		
1	I am scared a lot.	0,76
2	I cry a lot.	0,56

This factor can be described as 'personal' self perceptions and corresponds to the personal self concept section of the SSHI.

Table 14: Grouping of items under Factor 8

Item No.	Item-Statement	Factor Loading
<u>FACTOR 8</u>		
7	I am clumsy.	0,69
8	I am sick a lot.	0,57

The above factor can be described as 'physical' self perceptions and corresponds to the physical self concept section of the SSHI.

Table 15: Grouping of items under Factor 1

Item No.	Item-Statement	Factor Loading
<u>FACTOR 1</u>		
12	In the morning I like to go to school	0,76
9	I am happy at school.	0,72
4	I want to wear my hearing aids.	0,63

There is a correspondence between the above factor and the academic self concept section of the SSHI. Item 4 clustered with items representative of academic self perceptions. This could indicate that there is a relationship between pupils' attitude toward the use of a hearing aid (Item 4) and academic self perceptions.

Table 16: Grouping of items under Factor 5

Item No.	Item-Statement	Factor Loading
<u>FACTOR 5</u>		
21	I am happy at home.	0,79
23	My parents understand me.	0,75
22	My parents like to have me with them.	0,71

This factor can be described as self perceptions relating to the 'family' and corresponds to the 'family' subsection of the SSHI.

Table 17: Grouping of items under Factors 4, 9 and 11

Item No.	Item-Statement	Factor Loading
<u>FACTOR 4</u>		
28	I have many friends.	0,70
5	I am very strong.	0,63
25	I am liked by most boys and girls.	0,61
29	I can talk to most boys and girls.	0,54
<u>FACTOR 9</u>		
26	I fight with other boys and girls.	0,71
<u>FACTOR 11</u>		
30	I feel different from other boys and girls.	0,63
27	I am just like other boys and girls.	0,58

Together, these factors can be described as self perceptions relating to 'peers' and they correspond to the 'peers' subsection of the SSHI. Three factor loadings under Factor 4 are specific to the 'peers' subsection. Factor 11 consists only of two factor loadings (Item 27 and Item 30) found to be 'unstable' across test-retest. The removal of Items 27 and 30 is proposed in Chapter 6 and this would mean that Factor 11 would fall away.

Table 18: Grouping of items under Factor 2

Item No.	Item-Statement	Factor Loading
<u>FACTOR 2</u>		
36	I can go to the same places as hearing boys and girls.	0,70
32	I can do the things that hearing boys and girls do.	0,70

Table 18: (cont'd)

Item No.	Item-Statement	Factor Loading
37	I play sport as well as hearing boys and girls.	
34	I play the same games as hearing boys and girls.	0,57
38	I can understand television as well as hearing boys and girls.	0,56
35	Hearing boys and girls understand me.	0,50

There is a correspondence between this factor and the 'hearing peers and society' subsection of the SSHI.

Table 19: Grouping of items under Factor 3

Item No.	Item-Statement	Factor Loading
	<u>FACTOR 3</u>	
11	I do well at schoolwork.	0,78
10	I am clever at school.	0,68
17	My teacher thinks I work hard.	0,56
3	I do well at most things.	0,52
16	I do schoolwork as well as hearing boys and girls.	0,50

This is a new factor that can be described as self perceptions relating to 'academic achievement'. It has no corresponding section on the SSHI. An item from the proposed 'teachers' subsection of the SSHI has clustered under Factor 3. A specific factor did not emerge that corresponded with the 'teachers' subsection.

Table 20: Grouping of items under Factor 6

Item No.	Item-Statement	Factor Loading
<u>FACTOR 6</u>		
18	I can talk to my teacher.	0,60
35	Hearing boys and girls understand me.	0,55
39	I can talk to hearing boys and girls.	0,53

As in the case of Factor 3, this is a new factor that can be described as self perceptions relating to 'communication'.

#### 7.6 SUMMARY

The empirical data collected was analysed to determine the concurrent validity, content validity and construct validity of the SSHI. Concurrent validity, using professionals' criterion-ratings of self concept, was found to be low. Modestly higher correlations obtained for School 2 demonstrated that conditions within schools influence criterion-related validity findings. A panel of expert judges generally rated the content validity of the SSHI as adequate. The diagnostic value of the SSHI was emphasised by the panel of judges.

An internal, exploratory factor analysis revealed a fair correspondence between sections of the SSHI representing dimensions of the self concept and emergent factors. Two new factors emerged that could provide further information about pupils' self perception. These are self perceptions related to 'academic achievement' and to 'communication'.

CHAPTER 8SUMMARY AND CONCLUSIONS

In this last chapter, a summary is given of: first, the theory and literature regarding the self concept as it pertains to the measurement of the self concept; second, the construction of the SSHI, its administration and its reliability and validity. The various details and issues regarding a possible revision of the SSHI, its limitations and its potential uses are discussed.

8.1 SUMMARY8.1.1 Theoretical Study

In this study, self concept theory and measurement pertinent to the hearing impaired are considered. The factors which influence the self concept are discussed in terms of the hearing handicap and developmental issues. An examination of the variables and problems associated with self concept measurement is conducted, in order to gain information useful for the construction and administration of the SSHI. The recent literature that specifically pertains to self concept measurement, is reviewed.

A positive self concept is a necessary condition for a happy, well adjusted life. The findings of research studies indicate the probability of difficulties with self concept development for the hearing impaired prior to and during adolescence. The accumulated effect of incompletely resolved developmental stages increases the possibility of identity confusion in the adolescent phase.

The hearing impaired child and adolescent may have difficulty forming a realistic, positive self concept because of the depriving influence of the consequences of the hearing loss on his development. Resultant language deficits and communication difficulties can lead to social isolation and a lack of integration in the normal society. These factors, coupled with inappropriate parental attitudes and social stigmas toward the handicap, are likely to contribute to a negative self concept. The negative direction of self concept development amongst the hearing impaired seems to detract from the high level of personal resources required for functioning well in a vocation after leaving school, and in the normal society.

There is a possibility of viewing the self concept development of the hearing impaired pupil through a deviancy-deficiency model. Although findings indicate the probability of disrupted self concept formation, it should be acknowledged that self perception is unique to environmental conditions and circumstances of hearing impaired pupils. It may be inappropriate to make a comparison with 'hearing' standards and norms.

Results of self concept studies on the hearing impaired have been difficult to conclusively interpret, due partially to the use of inappropriate self concept scales. The too sophisticated level of language used in these scales tends to diminish or distort scores.

Furthermore, the responses of hearing impaired pupils on self-report scales could be influenced by defensiveness and response sets or styles.

A review of four recent studies reveals that researchers attempted to control for confounding variables in self concept measurement, although without great success. The complexity of intervening variables, relating to both the self concept and the hearing impairment, have made it difficult to interpret, generalise or replicate research findings.

Despite these difficulties, progress has been made in research in the 1980's and further investigation is merited by the importance of a healthy self concept in the overall functioning of the hearing impaired child. As a prerequisite to deciding the most beneficial intervention, researchers acknowledge the indispensable value of understanding the hearing impaired child's frame of reference through self concept assessment. The purpose of the SSHI is to measure the dimensions of the self concept from which diagnostic information can be inferred.

#### 8.1.2 Empirical Study

The SSHI was constructed according to the logical-keying approach. During the administration of the SSHI attempts were made to control for confounding variables.

Test-retest reliability was computed over a four to five week period on 198 pupils between 11 and 19 years of age in three schools in the Western Cape. Collateral information regarding these pupils was obtained by means of a questionnaire completed by professionals and teachers who work with these pupils on a day-to-day basis.

Concurrent validity of the SSHI was calculated against criterion-ratings of the pupils' self concept by three professionals. The content validity of sections of the SSHI was rated by a panel of six expert judges.

Construct validity was evaluated through an internal, exploratory factor analysis. The factor loadings of each item of the SSHI, with respect to the extracted factors, were examined to determine the extent to which the extracted factors were in accord with the theoretically constructed section and subsections of the SSHI.

#### 8.1.3 Findings of the empirical study

In a self-report scale such as the SSHI it cannot be assumed that the responses of pupils will be consistent on retest or that items can be regarded as stable. It was found that 37 of the pupils (18,7%) responded erratically to the SSHI, which could be a contributory factor to error variance.

The majority of items appear to be stable over test-retest. Six items were found to be less stable. On revision of the

SSHI, two of these can be removed from the SSHI, and two others need to be modified. Inconsistent responses to the final two items seem to be related to item-content that is associated with ambivalent self perceptions, rather than problems with the items themselves and therefore, these two items can be left in the SSHI.

A test-retest reliability over one month of 0,70 ( $p > 0,001$ , SE meas. = 7,5) for the full scale SSHI can be considered to be acceptable for a self-report scale. Reliability coefficients varied from 0,49 to 0,72 for sections and subsections of the SSHI. Therefore, caution should be exercised in interpreting less reliable sections, especially for particular age groups. Since conditions varied within schools, it is relevant to consider test-retest reliability for each school. Reliability coefficients varied from 0,64 to 0,80 between schools. The SSHI had slightly higher reliability coefficients for girls, for pupils with good language proficiency and a milder hearing loss. Results indicate that the SSHI measures the self concept with fair consistency over time for younger, as well as older pupils.

Three kinds of validity were determined : concurrent, content and construct validity. A fairly low concurrent validity (0,32) was obtained against professionals' criterion-ratings of their pupils' self concept. The concurrent validity correlation coefficients varied across schools. The correlation coefficient of 0,55 (full scale SSHI) obtained

for School 2 is an indication that conditions within schools affect concurrent validity. The content validity of sections of the SSHI was largely rated as adequate. In determining construct validity, it was found that there is a fair correspondence between emergent factors and theoretically constructed sections of the SSHI. In the factor analysis, two new factors emerged, which are described as: self perceptions related to achievement and self perceptions related to communication.

## 8.2 CONCLUSIONS

### 8.2.1 Limitations of the SSHI

The self concept is an indication of behavioural predispositions and is not directly related to a pupil's actions. Therefore, scores on the SSHI are not definitively predictive of future behaviour, nor should they be regarded by professionals as a direct description of behaviour.

The 'true' reporting of the self concept cannot be assumed on the SSHI as pupils may be reluctant to disclose their self perceptions and responses are easily faked. Professionals should carefully observe and probe pupils' reactions and responses to items, if a distortion of responses is suspected.

The influence of language proficiency on responses to the SSHI should be taken into consideration when interpreting results. The SSHI is not a measure of language usage,

although language is a means of expression of the self concept. It would be to the pupil's benefit for examiners to use appropriate communication methods which clarify instructions and the meaning of items, in order to assist pupils who are having difficulty responding to the SSHI because of linguistic deficits.

A disadvantage of using 'happy', 'neutral' and 'sad' figures is that pupils could ignore the item-statement and 'tick' the figure they would most like to be or, if undecided, simply 'tick' the neutral figure. Furthermore, a 'smiling' or 'frowning' figure may not match the attached statement-content for different pupils. For example, Item 14 : 'I am naughty in class', could be more connected with a 'smiling' figure in the peer group instead of a 'frowning' figure. Misbehaviour or 'naughtiness' in the classroom may be perceived as pleasing and 'funny'. It is, therefore, necessary to have in perspective the present circumstance of the child. When the SSHI is individually administered, verbal and non-verbal reactions to items can act as indicators as to whether item and attached statement differ from the value-system of the pupil. Statements have been attached to figures according to conventional values which places certain limitations on the design of the scale.

Pupils may be responding to the SSHI as they would like to be, rather than disclosing how they actually perceive themselves (Yachnick, 1986). It could be argued that the

exclusion of an ideal self section on the SSHI makes it impossible to determine the extent of such response styles. It does not allow an index of the discrepancy between ideal and cognised self concepts, and limits the range of information elicited about the self concept. An ideal self section has not been included as research has shown that it reflects homogenous cultural norms, rather than actual self perception (Burns, 1979). Responses to ideal self ratings were found to be more representative of a social desirability response set, instead of variance related to self concept.

The discrepancy index between scores on cognised and ideal self concept sections of a test is regarded as statistically questionable and redundant (Burns, 1979).

An additional section containing items representative of the vocational self concept would be useful for 17 to 19-year-old pupils, but is best left excluded for younger pupils. A possible revision of the SSHI for older pupils can include a few items which tap self perceptions related to future employment. The present format of the SSHI is limited to personal, physical, social and academic self concept sections.

Further research is required to determine the value of a shortform 20-item SSHI for use with younger children between the ages of 8 and 10 years. Certainly, the cognitive and the

language development of younger children would have to be assessed prior to administering a shortform SSHI.

### 8.2.2 Revision of the SSHI

In the revision of the SSHI, certain items require modification and the descriptive findings indicate that others be removed. Items 34 and 36 were found to be less stable, possibly, because they require less ambiguous wording. They can be re-worded to be more explicit in representing the same aspects of self perception. Items 27 and 30 were included in the SSHI as representative of specific social self perceptions and also as a 'check' on the consistency of pupils' responses. Since these items have been found to be less stable and ambiguous, it is unlikely that either intended function of the items would be achieved. The content of both items is represented in Item 40, under the 'hearing peers/society' subsection. Hence, the removal of these items should not reduce the sampling of content of the SSHI and can contribute to its effectiveness in measuring the self concept. Such a revision will reduce its length to a 38-item scale.

### 8.2.3 Possible further development of the SSHI

The SSHI seems to have probably sufficient reliability and validity to justify further work on it in the future to improve its effectiveness. The construct validity of the SSHI cannot be expressed only in terms of an internal factor analysis, but requires continual expansion and re-

confirmation through investigating the relationship between the dimensions of the self concept measured on the SSHI and other personalistic variables.

It is possible that criteria, other than the ratings of professionals may be found which could be used in determining the validity of the SSHI.

It is clear that the SSHI needs further revision and development to consolidate its viability. Future research on the SSHI is possibly required to calculate test norms, perhaps expressed in terms of percentile rank for each age group.

#### 8.2.4 Possible uses of the SSHI

Since no norms are available at present for the SSHI, it can have diagnostic value when the SSHI scores obtained before an intervention programme are compared with the scores obtained after a period of the implementation of the programme. The pupil's self concept profile of scores for each dimension of self concept can be ipsatively compared prior to the intervention and thereafter, to indicate if progress is made in the developing of more realistic, positive self perceptions. A self concept profile can inform the goals of intervention, which can be then formulated in a manner that is motivating and meaningful for the pupil. As so aptly stated by Oaklander (1978 : 283):

"Change occurs when one becomes what he is,  
not when he tries to become what he is  
not".

Communication difficulties and experiences unique to the hearing impairment can prevent hearing professionals from understanding the needs of the handicapped child. In deciding what is best for the child or adolescent, professionals can unwittingly impose a system of beliefs and strategies which coerce him to change and behave in a way that is contrary to his experience and long-term social adaptation.

The SSHI can provide an opening into the world of the child who has difficulty disclosing the self through other means. A pupil's scores on the SSHI can sensitise professionals and psychologists to the kinds of rehabilitation programmes and therapies that are most appropriate to the pupil's requirements. The SSHI provides only qualitative information that should be viewed in association with collateral data obtained from other tests, the 'life-history', a knowledge of a pupil's present circumstances and behavioural observations.

It is recommended that the SSHI be used as a part of the test battery for hearing impaired pupils by psychologists in school clinics, hospitals and schools. Responses to the SSHI can provide complementary information with the Kinetic Family Drawing, the Goodenough-Draw-A-Person, other personality

tests, as well as tests of cognitive abilities, with the goal of assessing the whole child (Knoff, 1983). Results should be viewed in the context of the child's family, school and social circumstances (Portwood, 1979).

Scores obtained on the SSHI, in the form of a graphic profile, can be used to demonstrate to parents and teachers the pupil's frame of reference, in an attempt to explain behaviours and attitudes which are perplexing to hearing adults. When such an approach is adopted, it must be explained to the hearing adults involved that results are only indicators of self perception and not absolute scores. A pupil's responses to the SSHI can be of some assistance to professionals in moving away from a deviancy-deficiency model toward a coping framework in dealing with the pupil. By having a 'window' into the pupil's view of himself, it may be easier to discard purely subjective, stereotypic impressions of the hearing impaired.

In group counselling or social skills training, adolescents can explore personal deficits and strengths, as well as encourage each other through open discussion of their responses to the SSHI. Other areas where the SSHI could possibly be of use are:

- Assessing self perceptions toward integration in the mainstream.
- Providing insight into academic under-achievement.

- Assessing pupil's inner preparation for school-leaving and employment.
- Evaluating the before and after impact of individual and group interventions and therapies.
- Assessing the impact of early and continued language programmes on self concept formation and development.

In conclusion, the SSHI may prove to have a potential place in the test battery of professionals working with hearing impaired pupils. It has probably sufficient reliability and validity for use especially in a future, revised format. It is hoped that a revised form of the SSHI will in future be used by professionals to gain additional information on hearing impaired pupils' self concept. This may contribute to assisting professionals in providing an appropriate environment and circumstances in which pupils can realise their individual potential. Provisions of this kind for pupils can allow them the opportunity to be dignified men and women, capable of finding their place in society.

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## APPENDIX A

### An explanation of self-referrent terms

Terms have been presented in a logical sequence and not in alphabetical order

#### Self

The sense of personal existence; described by Guardo, in 1968, as a person's "phenomenological feeling or sense of personal identity" (Hamachek, 1988:66).

#### Ideal self

It may be defined as the kind of person the pupil would like to be, i.e. an idealised level of functioning (Rogers, 1951).

#### Self concept

The term is defined in the text. It essentially refers to the awareness of the self at a given moment.

#### Identity

It is considered to be the pupil's awareness of unique individuality during adolescence. In this dissertation the terms, 'self concept' and 'identity' are used synonymously in describing the pupils' development in adolescence. Erikson's (1974) use of the term, 'identity', is similar to Burns' (1979) explanation of the self concept in adolescence.

#### Ego

The ego is that aspect of the self in "contact with the outside world through such cognitive process as thinking, perceiving, remembering, reasoning and attending, all modes of thought used by people to obtain their ends and defend their self concepts" (Hamachek 1988 : 66).

#### Defence Mechanisms

The pupil creates defences to preserve his integrity and worth when faced with ego-involved stress situations. The protection of self-esteem from possible devaluation and anxiety is the function of defence mechanisms. In an attempt to maintain stability of self-evaluation and behaviour, pupils may deny, ignore or distort experiences, which are inconsistent with the self concept (Rogers, 1975). The use of defence mechanisms is a normal human reaction unless used to such an extreme that maintenance of self-esteem is interfered with instead of aided.

## APPENDIX A (cont'd)

### Self perception

In this dissertation, it refers to a specific way in which the pupil perceives and evaluates himself. A pupil may have many self perceptions for each dimension of his self concept.

### Self-Esteem

It is the personal evaluation of worthiness that is expressed in the extent to what a person has a positive or negative attitude toward himself (Yachnick 1986). According to William James, in 1890, self-esteem is the subjective assessment of success in relation to societal norms and personal goals (Burns, 1982).

### Self-Worth

It is a more fundamental, but nebulous concept, than self-esteem. It is the feeling that the self is important and effective and that the pupil has mastery over his actions. He is not dependent on external support and has a sense of personal competence (Burns, 1979). For measurement purposes, self-esteem is regarded as the pupil's evaluation of himself with self-worth implied.

### Self-image

It is the static, perceived description and knowledge of the self that is formulated, through the process of self-evaluation. In turn, the pupil's evaluations promote behaviour consistent with the self-image (Burns, 1979).

### Self-Acceptance

It is accepting, rather than critical judgements of the self. A higher degree of acceptance of the self results in less self-criticism and enhances self-esteem (Rogers, 1975).

APPENDIX B

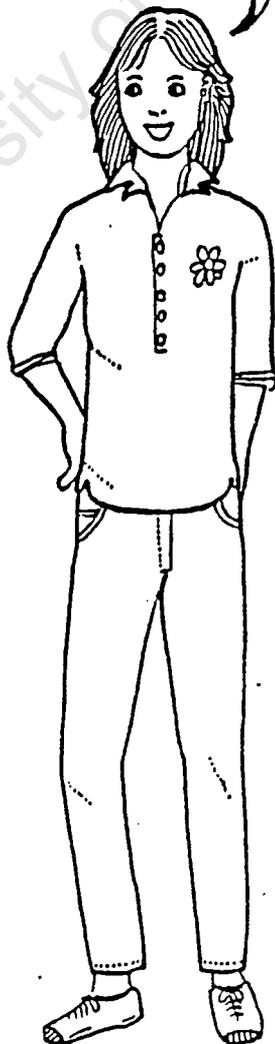
Presented in this Appendix are the four versions of the SSHI as given below:

- B (1): SSHI - English, girls
- B (2): SSHI - Afrikaans, girls
- B (3): SSHI - English, boys
- B (4): SSHI - Afrikaans, boys

University of Cape Town

Self Concept Scale  
for the  
Hearing Impaired

WHICH GIRL ARE YOU ?

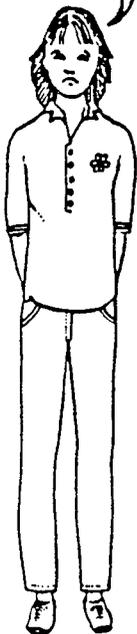


INSTRUCTIONS:

Use the example below to demonstrate how to complete the questionnaire  
Clearly indicate to the hearing-impaired student each of the following steps:

1. "Here are three girls. One girl is very happy, one is very sad, and one is not so sad or happy."  
(Indicate each kind of girl).
2. "Each girl is saying something. Read what each girl is saying."  
(Read and explain to the student).
3. "Which girl is like you?"  
"Tick the block below the girl that is like you."  
(Assist and demonstrate where necessary).

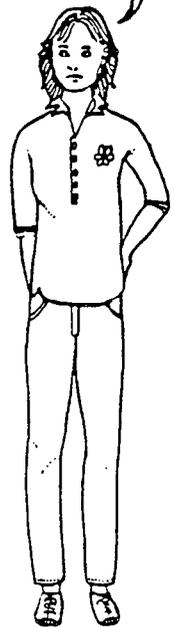
I do not  
feel happy



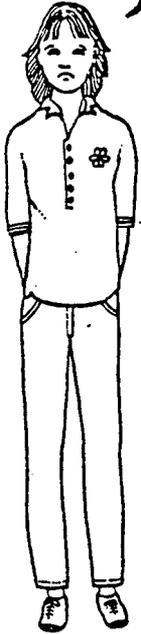
I feel  
very happy



I feel happy  
sometimes

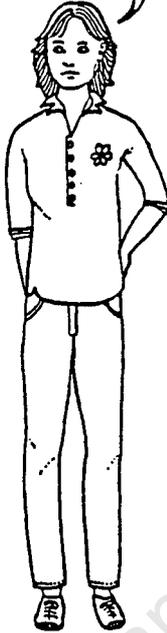


I am scared a lot

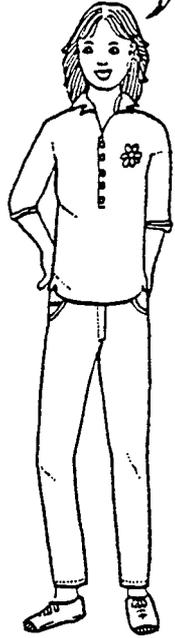


1.

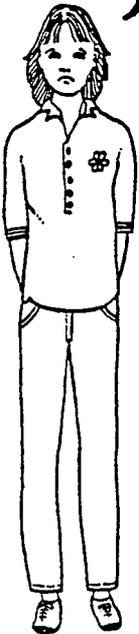
I am scared sometimes



I do not get scared



I cry a lot

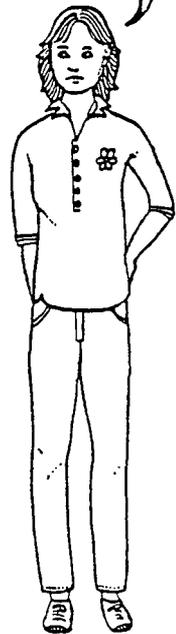


2.

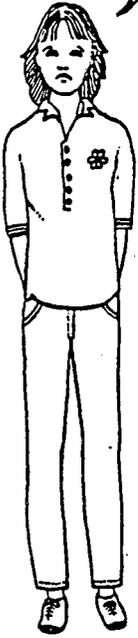
I hardly ever cry



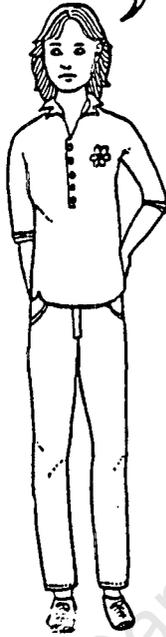
I cry sometimes



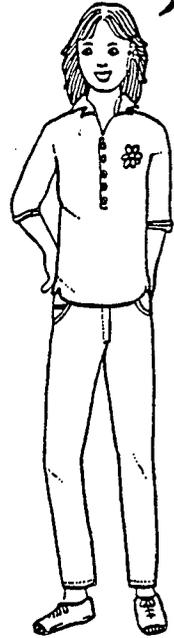
I do not do well at most things



I do well at some things

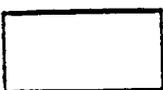
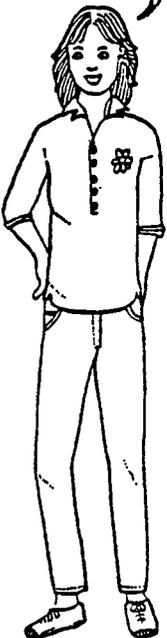


I do well at most things

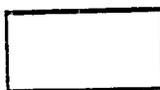
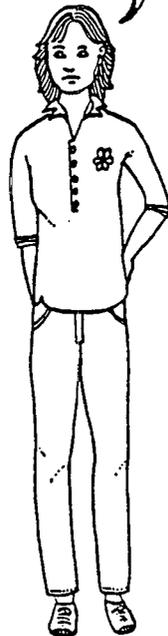


3.

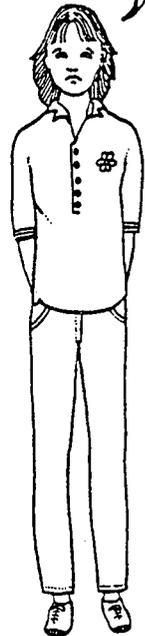
I want to wear my hearing aids



I want to wear my hearing aids sometimes

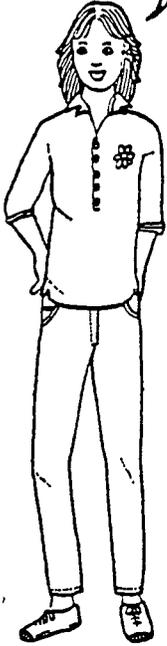


I do not want to wear my hearing aids



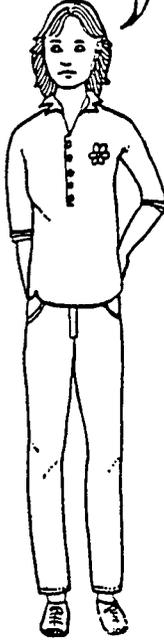
4.

I am very pretty

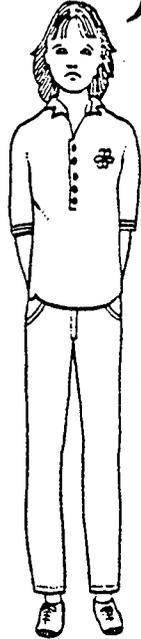


5.

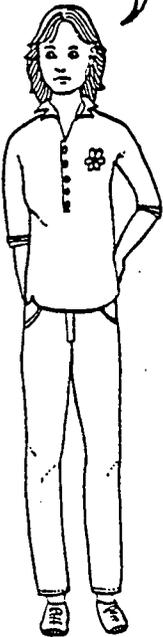
I am not so pretty



I am not pretty

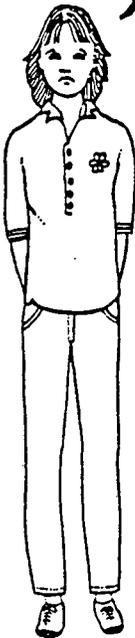


I like the way I look sometimes

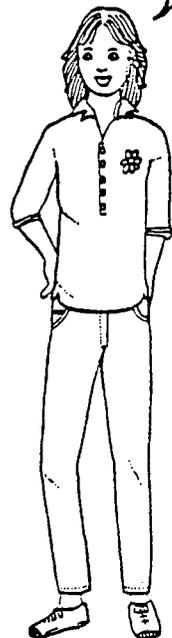


6.

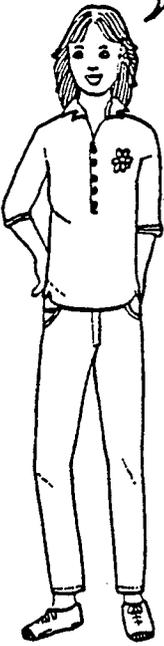
I do not like the way I look



I like the way I look

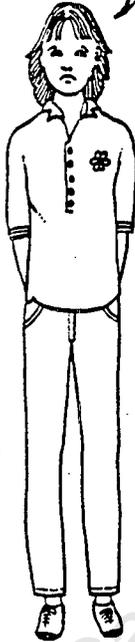


I am not clumsy

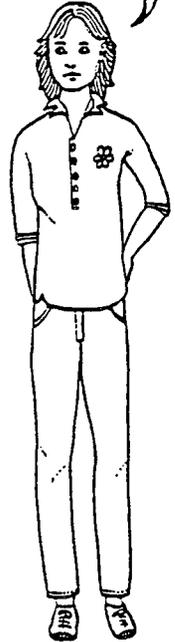


7.

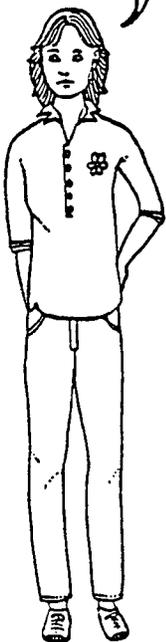
I am clumsy



I am clumsy sometimes

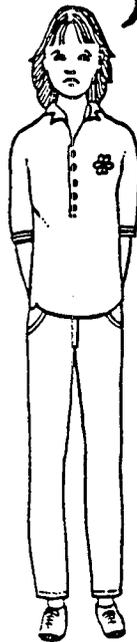


I am sick sometimes

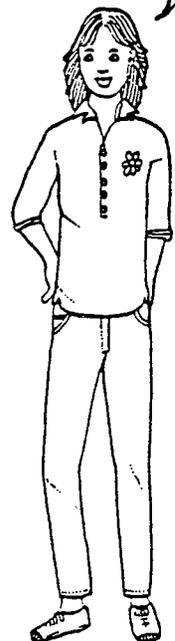


8.

I am sick a lot



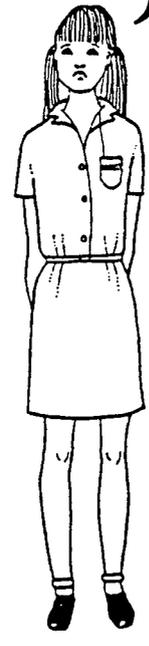
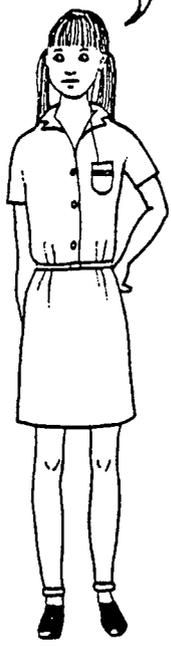
I hardly get sick



I am sometimes happy at school

I am happy at school

I am not happy at school



9.

I am not clever at school

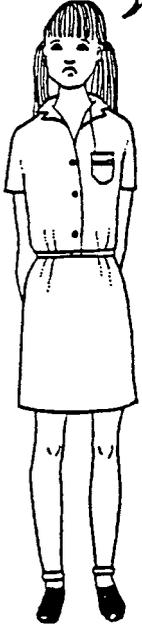
I am clever at school sometimes

I am clever at school



10.

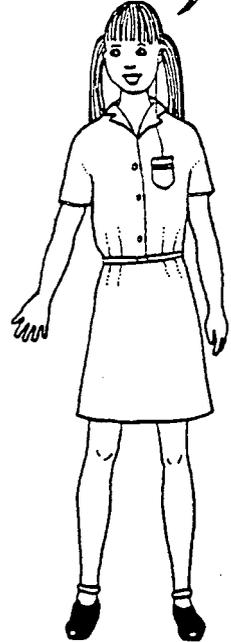
I do not do well  
at schoolwork



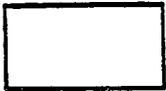
I sometimes do well  
at schoolwork



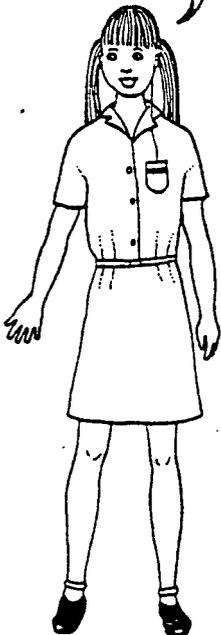
I do well at  
schoolwork



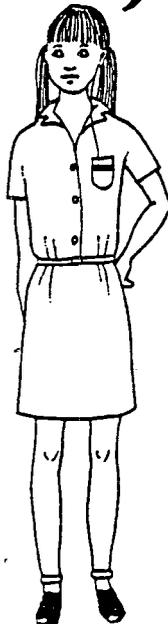
11.



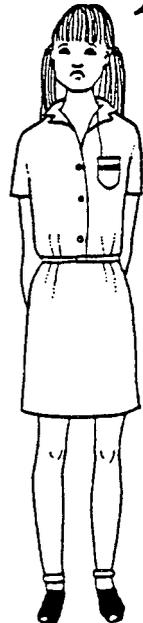
In the morning  
I like to go  
to school



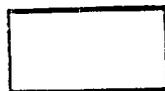
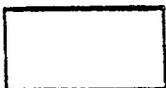
In the morning  
I sometimes like  
to go to school



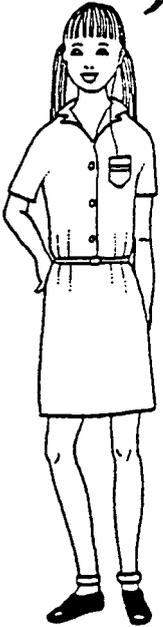
In the morning  
I do not like  
to go to school



12.

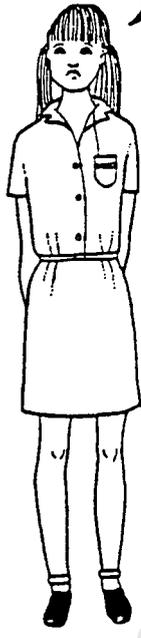


I try my best at school

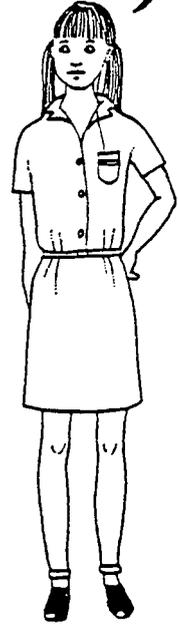


13.

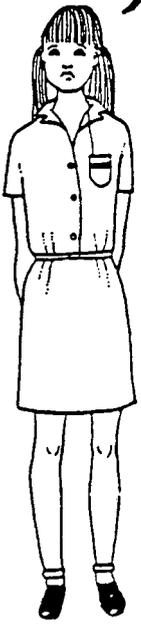
I do not try my best at school



I sometimes try my best at school

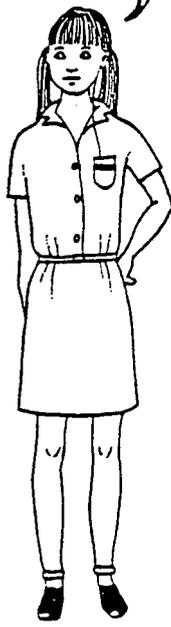


I am naughty in class

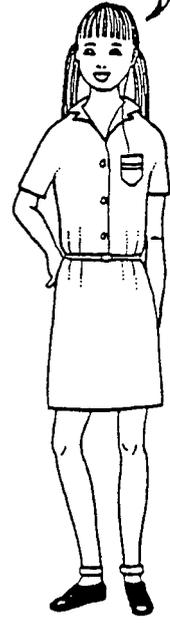


14.

I am sometimes naughty in class



I am not naughty in class



I sometimes behave well in class



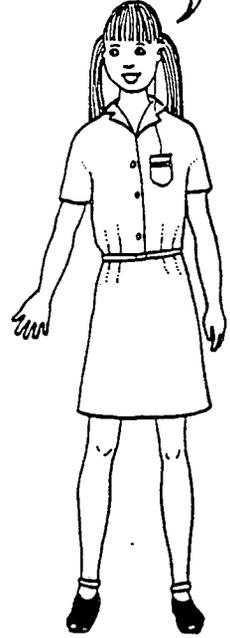
15.



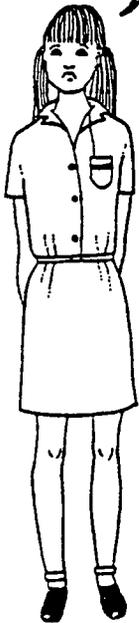
I do not behave in class



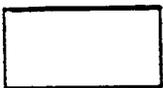
I behave well in class



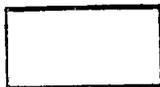
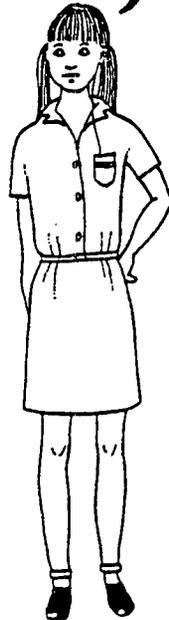
I do not do schoolwork as well as hearing boys and girls



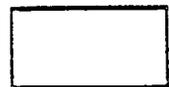
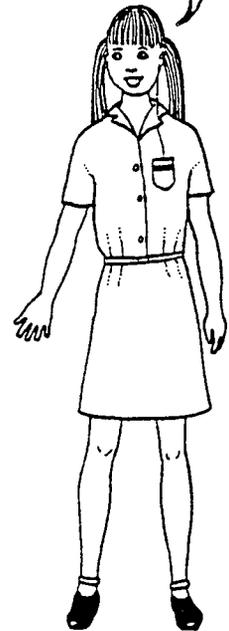
16.



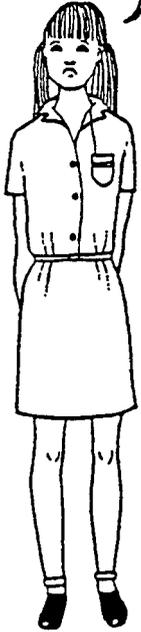
I do some schoolwork as well as hearing boys and girls



I do schoolwork as well as hearing boys and girls



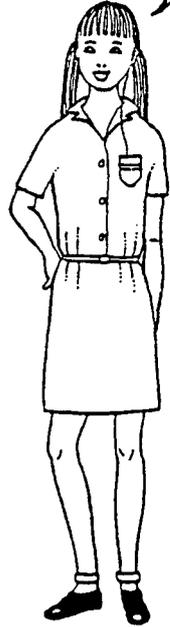
My teacher thinks  
I am lazy



My teacher thinks  
I work hard sometimes

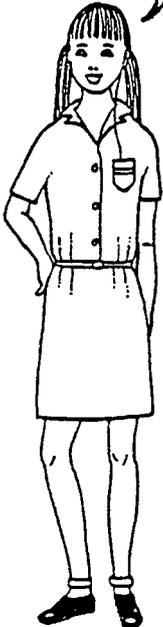


My teacher thinks  
I work hard

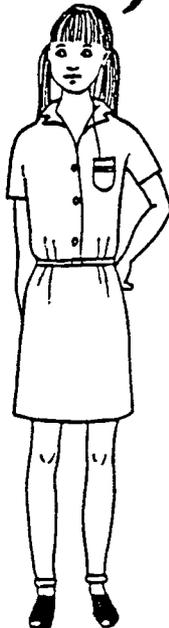


17.

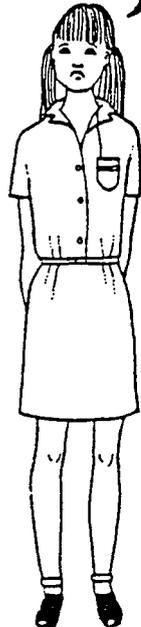
I can talk to  
my teacher



I can sometimes  
talk to my teacher



I cannot talk  
to my teacher

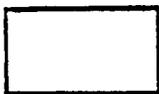


18.

My teacher likes me



19.



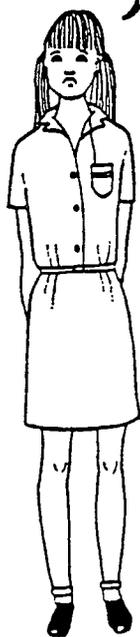
My teacher does  
not like me



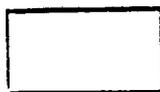
My teacher likes  
me sometimes



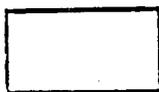
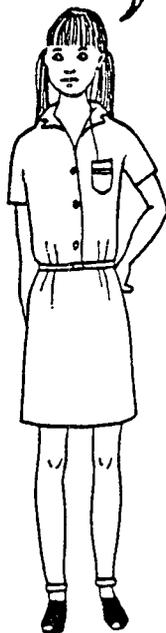
My teacher does not  
understand me



20.



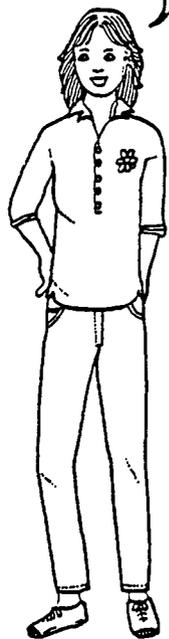
My teacher understands  
me sometimes



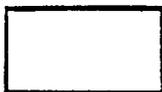
My teacher  
understands me



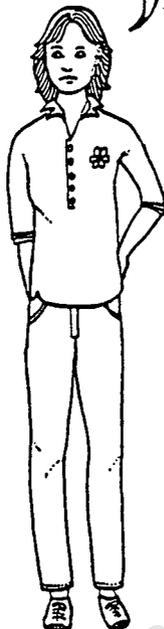
I am happy at home



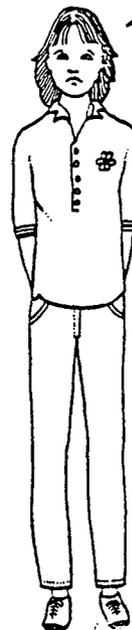
21.



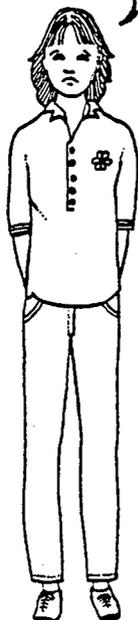
I am happy at home sometimes



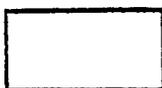
I am not happy at home



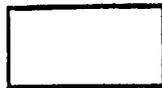
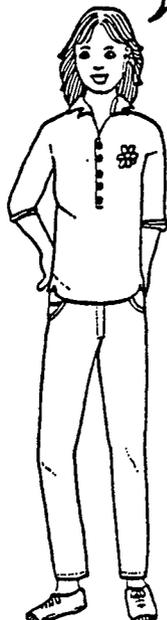
My parents do not like to have me with them



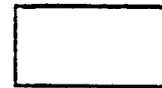
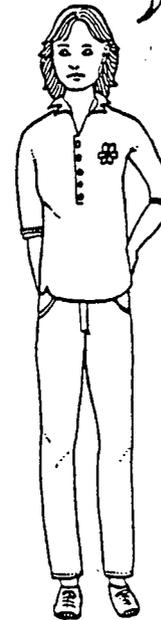
22.



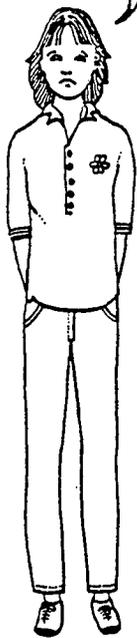
My parents like to have me with them



My parents like to have me with them sometimes

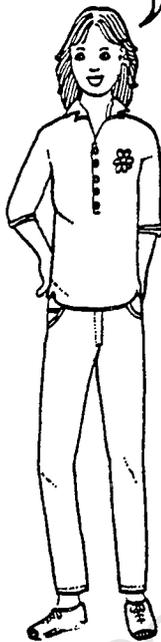


My parents do not  
understand me

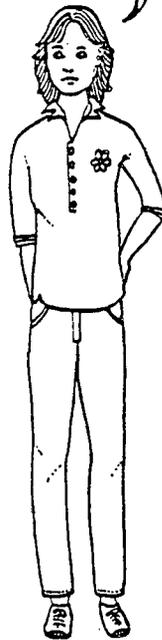


23.

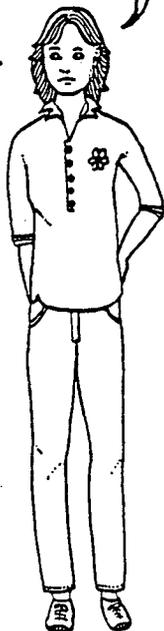
My parents understand me



My parents understand me sometimes



My brothers and sisters like me sometimes

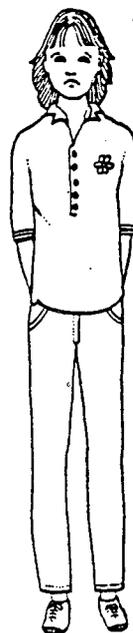


24.

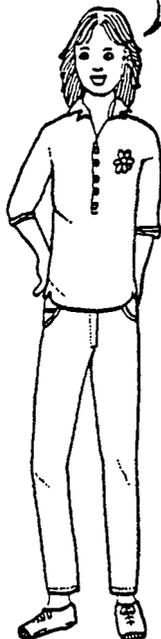
My brothers and sisters like me



My brothers and sisters do not like me

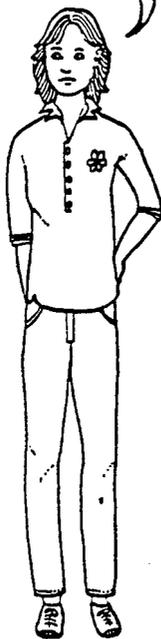


I am liked  
by most boys and girls.

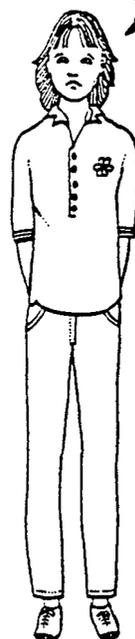


25.

A few boys and girls  
like me



No-one likes me

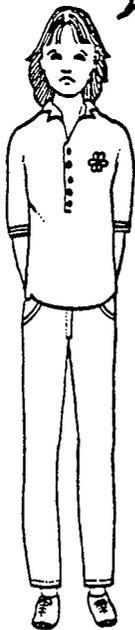


I do not fight with  
other boys and girls.



26.

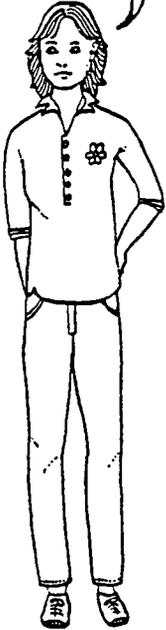
I fight with  
other boys and girls



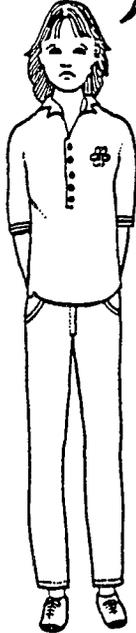
I sometimes fight  
with other boys  
and girls



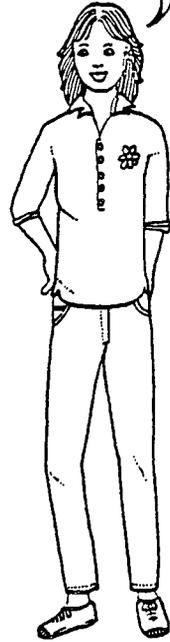
I am a little like other boys and girls



I am not like other boys and girls

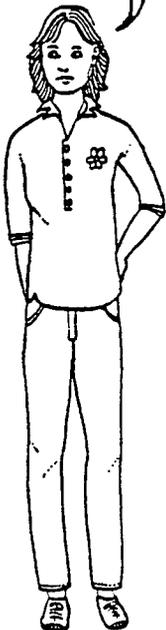


I am just like other boys and girls

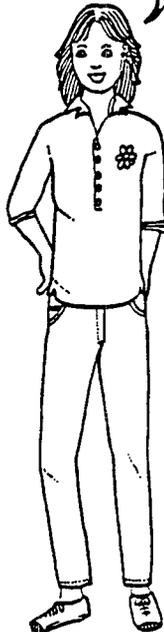


27.

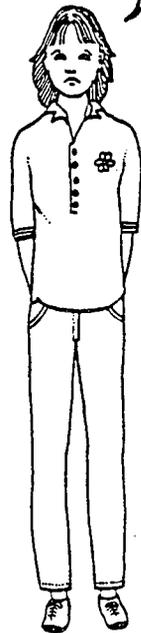
I have a few friends



I have many friends



I have no friends



28.

I can talk to a few boys and girls

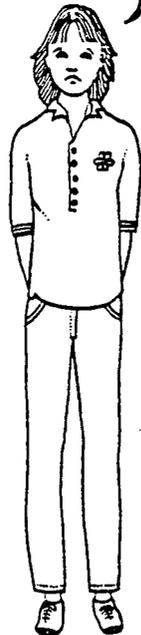


29.

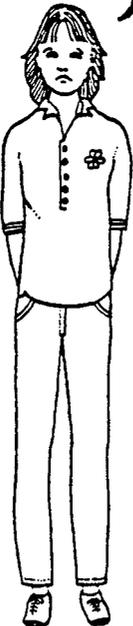
I can talk to most boys and girls



I cannot talk to most boys and girls

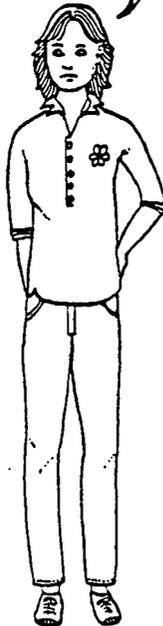


I feel very different from most boys and girls

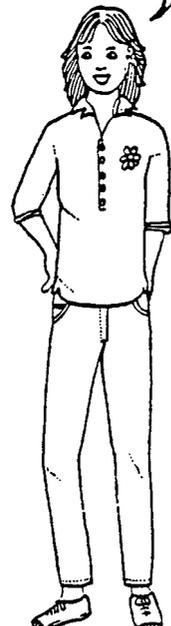


30.

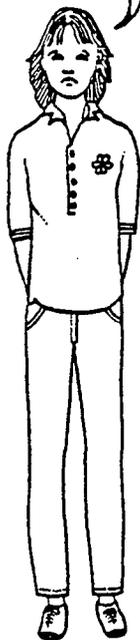
I feel different from most boys and girls



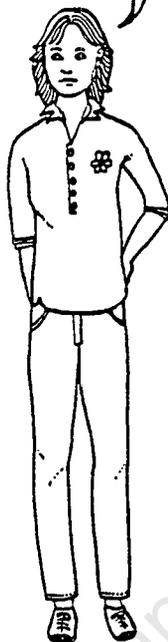
I do not feel different from most boys and girls



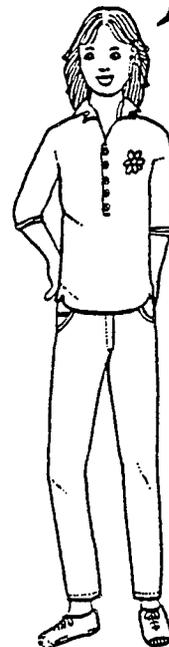
I am scared of hearing boys and girls



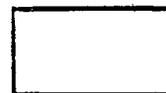
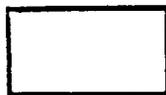
I am sometimes scared of hearing boys and girls



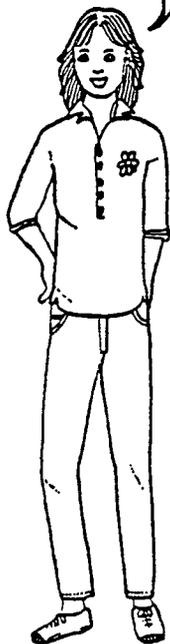
I am not scared of hearing boys and girls



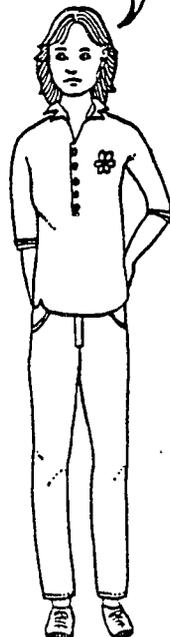
31.



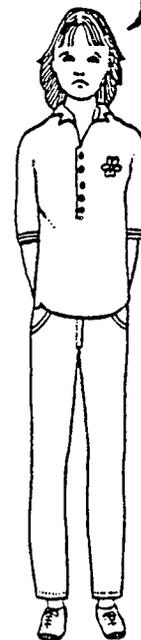
I can do the things that hearing boys and girls do



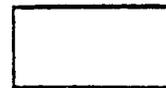
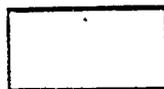
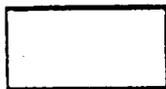
I can do a few of the things that hearing boys and girls do



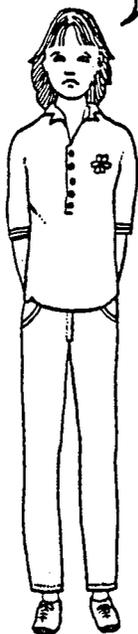
I cannot do the things that hearing boys and girls do



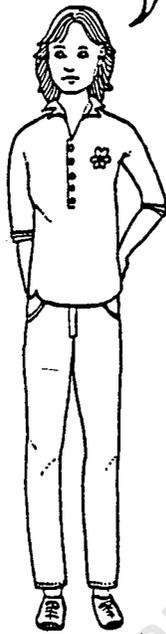
32.



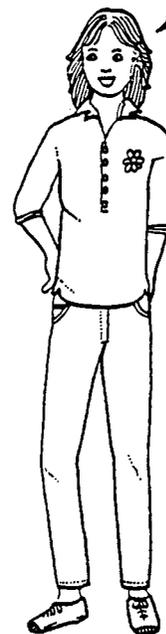
People think I am funny  
because I cannot  
hear well



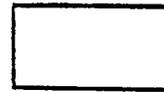
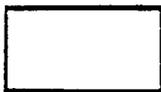
People sometimes think  
I am funny because  
I cannot hear well



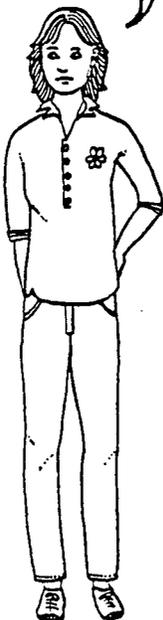
People do not think  
I am funny



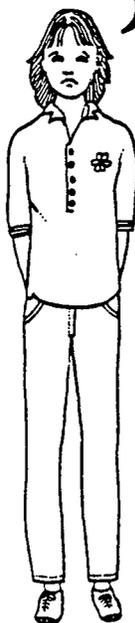
33.



I sometimes play the  
same games as  
hearing boys and girls



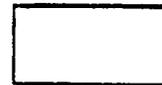
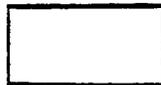
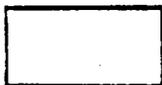
I do not play  
the same games  
as hearing boys  
and girls



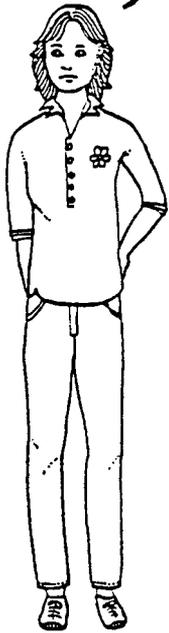
I play the same games  
as hearing boys  
and girls



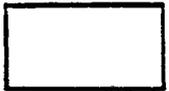
34.



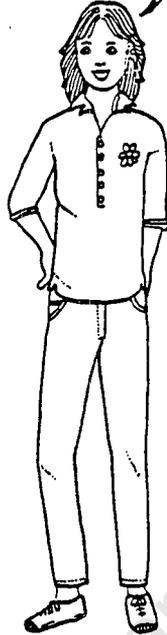
Hearing boys and girls understand me sometimes



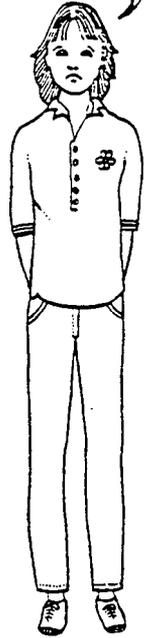
35.



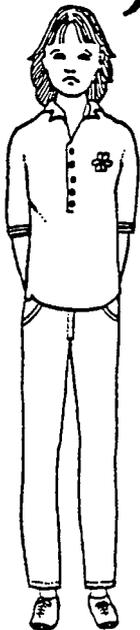
Hearing boys and girls understand me



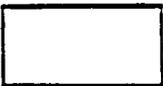
Hearing boys and girls do not understand me



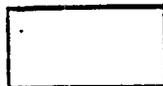
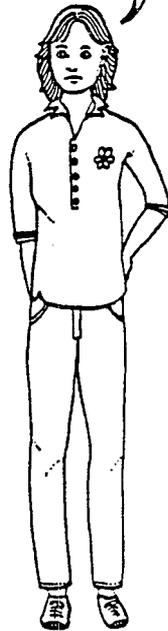
I cannot go to the same places as hearing boys and girls



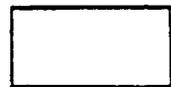
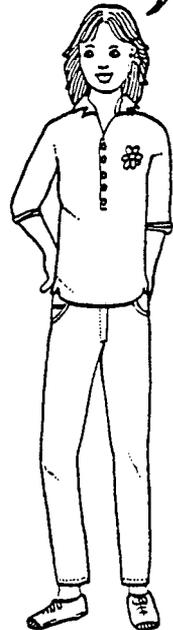
36.



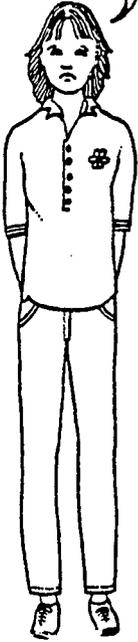
I can go to a few of the same places as hearing boys and girls



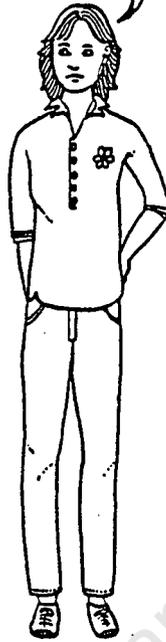
I can go to the same places as hearing boys and girls



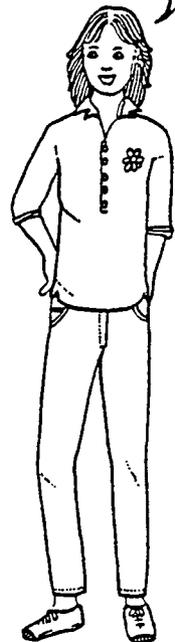
I do not play sport as well as hearing boys and girls



I sometimes play sport as well as hearing girls and boys

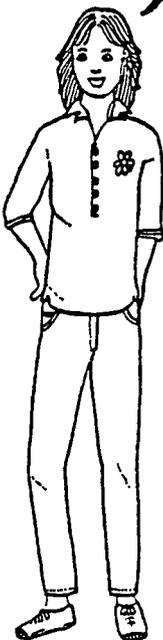


I play sport as well as hearing boys and girls

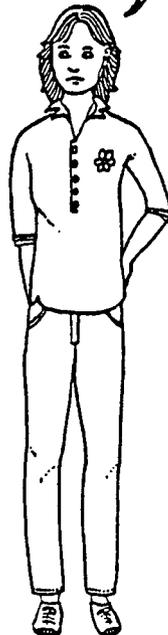


37.

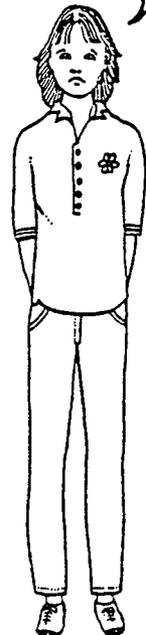
I can understand television as well as hearing boys and girls



I can sometimes understand television as well as hearing boys and girls

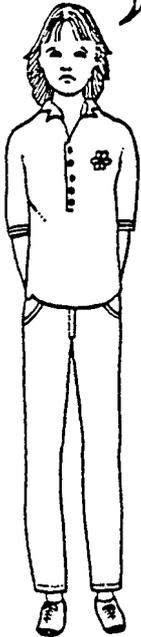


I cannot understand television as well as hearing boys and girls



38.

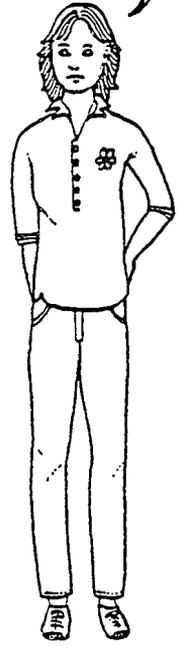
I cannot talk to hearing boys and girls



I can talk to hearing boys and girls



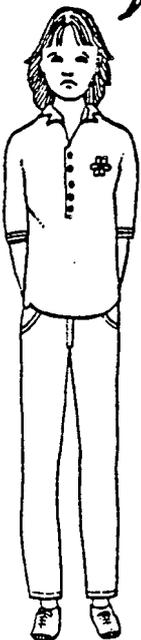
I can talk to hearing boys and girls sometimes



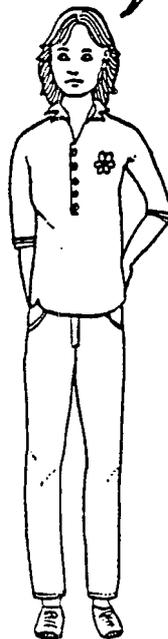
39.



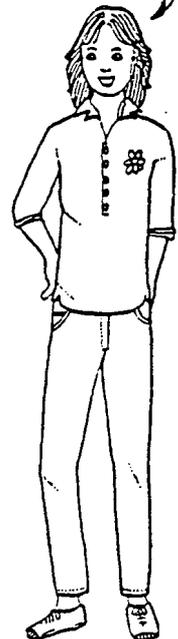
Boys and girls think I am different because I cannot hear



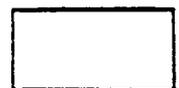
Boys and girls think I am a little different because I cannot hear



Boys and girls think I am the same as them



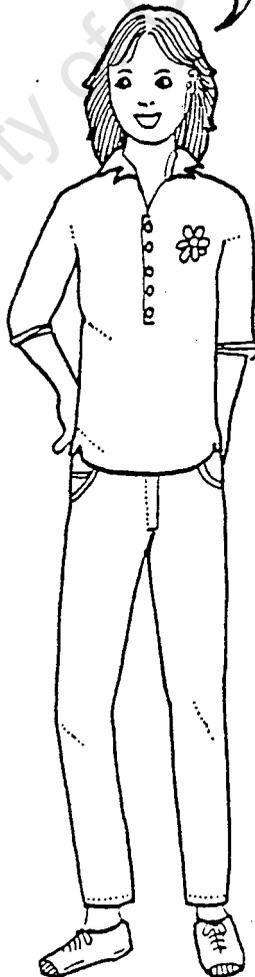
40.



APPENDIX B (2)

Selfkonsepskaal  
vir  
Gehoorgestremdes

WATTER DOGERTJIE IS JY ?

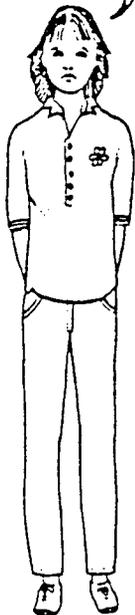


INSTRUKSIES:

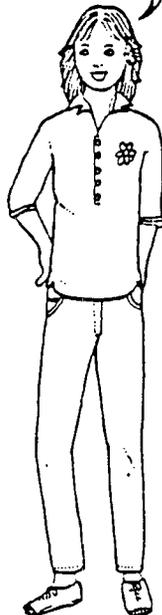
Gebruik die voorbeeld hieronder om te demonstreer hoe die vraelys voltooi moet word. Verduidelik aan die gehoorgestremde leerling elkeen van die volgende stappe:

1. "Hier is drie dogtertjies. Een dogtertjie is baie gelukkig (bly), een is baie ongelukkig (treurig), en die ander een is nie so baie gelukkig of ongelukkig nie."  
(Wys elke dogtertjie duidelik.)
2. "Elke dogtertjie sê iets. Lees wat elke dogtertjie sê."  
(Lees en verduidelik aan leerling.)
3. "Watter dogtertjie is soos jy?"  
"Merk die blokkie onder die dogtertjie wat net soos jy is."  
(Help en as dit nodig is demonstreer.)

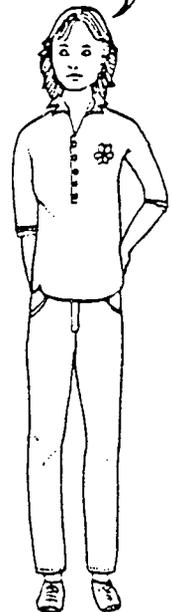
Ek voel nie  
gelukkig nie



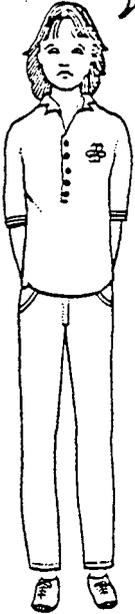
Ek voel baie  
gelukkig



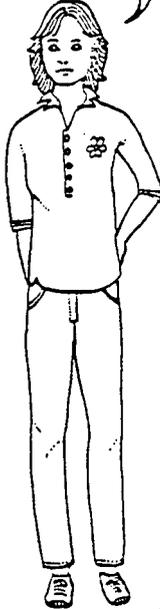
Ek voel soms  
gelukkig



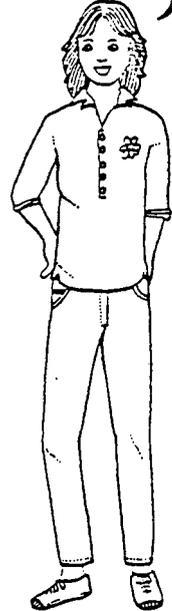
Ek is dikwels bang



Ek is soms bang

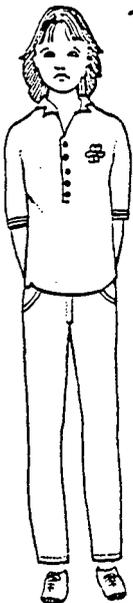


Ek word nie bang nie

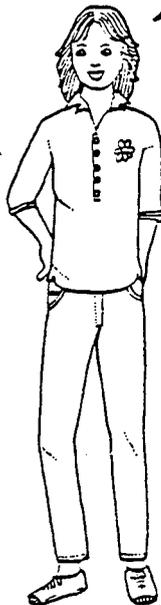


1.

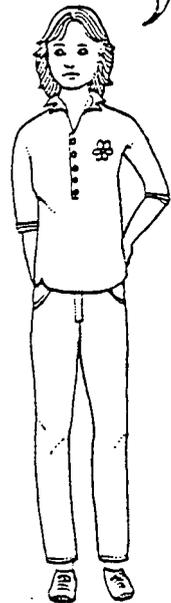
Ek huil baie



Ek huil amper  
nooit nie

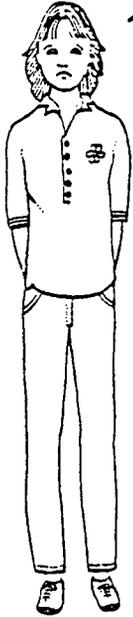


Ek huil soms



2.

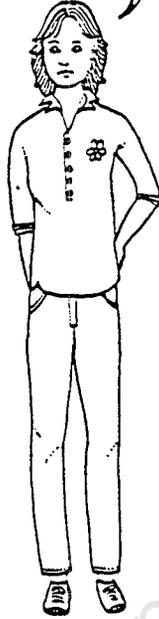
Ek doen die meeste dinge nie goed nie



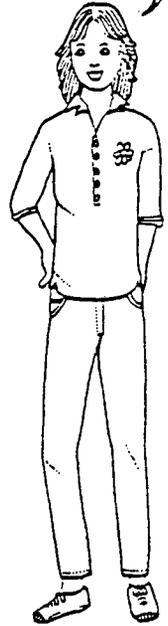
3.



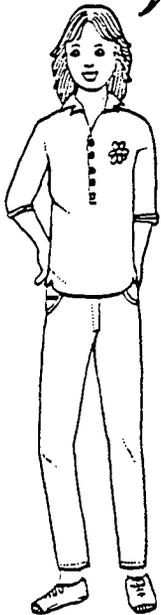
Ek doen party dinge goed



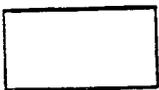
Ek doen die meeste dinge goed



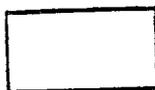
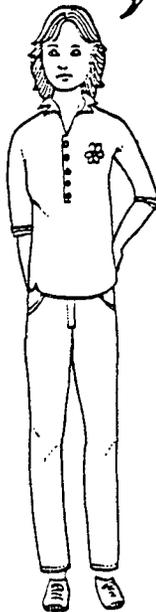
Ek wil graag my gehoorapparaat dra



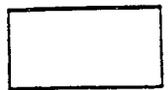
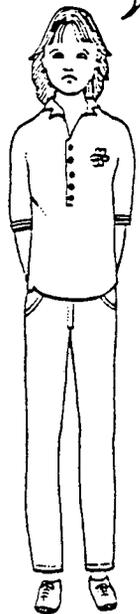
4.



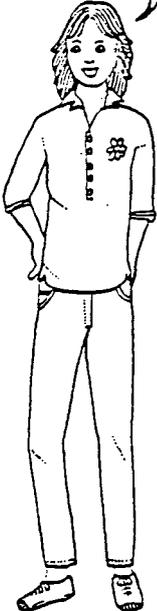
Ek wil soms my gehoorapparaat dra



Ek wil nie my gehoorapparaat dra nie

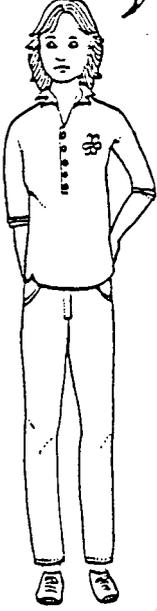


Ek is baie mooi

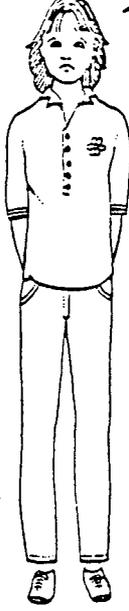


5.

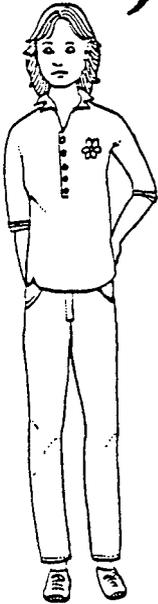
Ek is nie so mooi nie



Ek is glad nie  
mooi nie

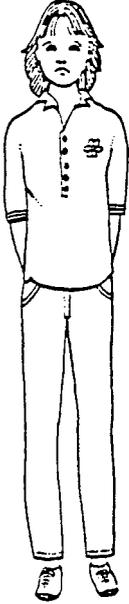


Ek hou soms van  
hoe ek lyk

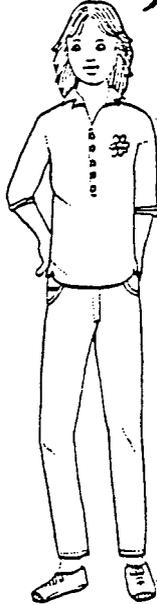


6.

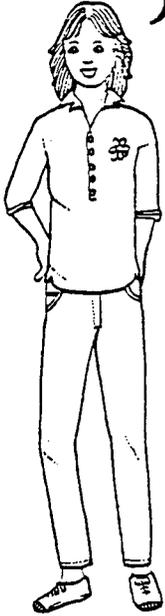
Ek hou nie van  
hoe ek lyk nie



Ek hou van hoe ek lyk

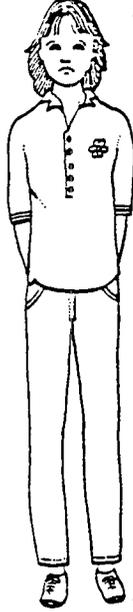


Ek is nie lomp nie

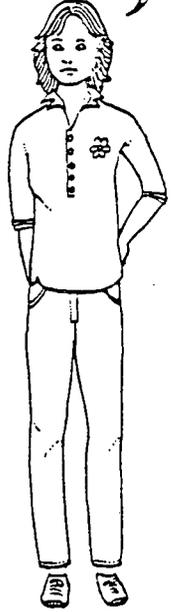


7.

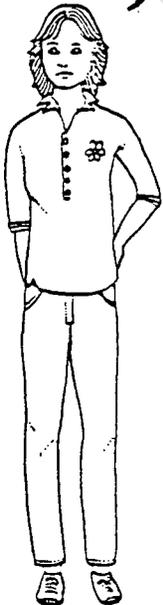
Ek is lomp



Ek is soms lomp

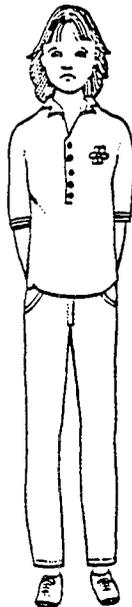


Ek word soms siek

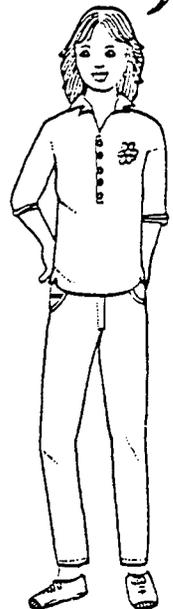


8.

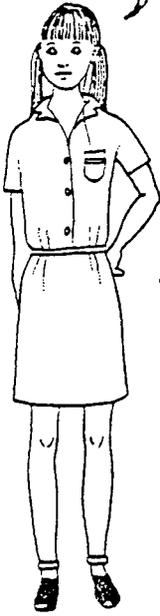
Ek word dikwels siek



Ek word byna nooit siek nie



Ek is soms gelukkig op skool

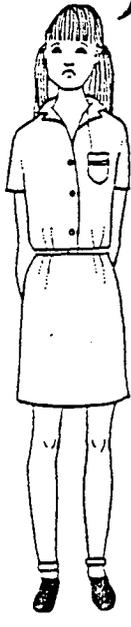


9.

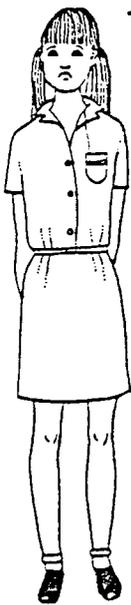
Ek is gelukkig op skool



Ek is nie gelukkig op skool nie

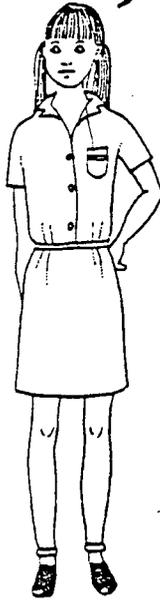


Ek is nie slim op skool nie



10.

Ek is soms slim op skool



Ek is slim op skool

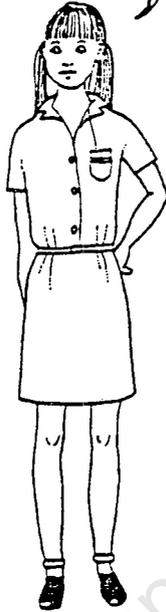


Ek doen nie goed  
in my skoolwerk nie

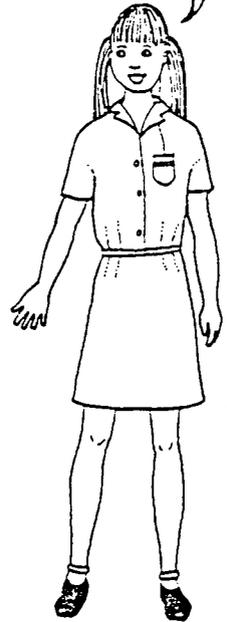


11.

Ek doen soms goed  
in my skoolwerk



Ek doen goed  
in my skoolwerk

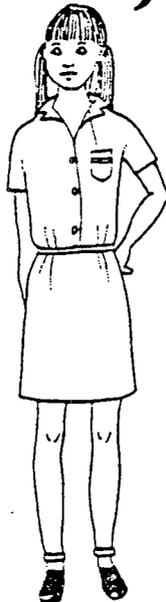


In die oggend  
hou ek daarvan  
om skool toe te gaan

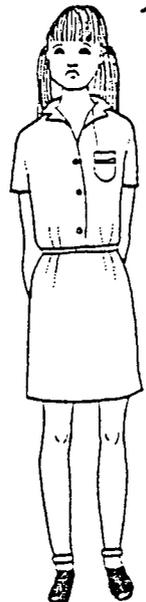


12.

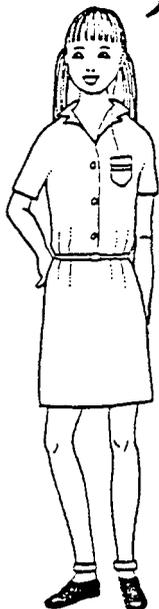
In die oggend  
hou ek soms  
daarvan om skool  
toe te gaan



In die oggend  
hou ek nie daarvan  
om skool toe te gaan nie



Ek probeer  
my bes op skool

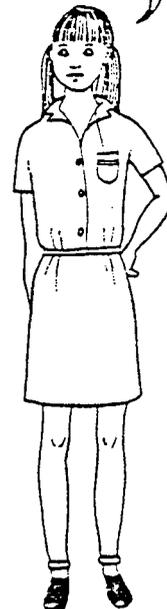


13.

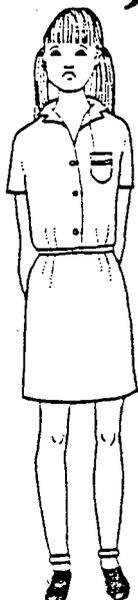
Ek probeer nie  
my bes op skool nie



Ek probeer soms  
my bes op skool

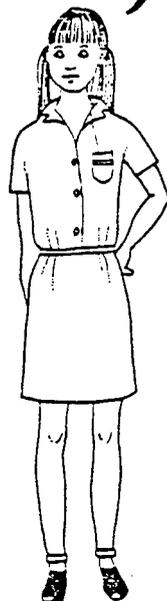


Ek is stout  
in die klas



14.

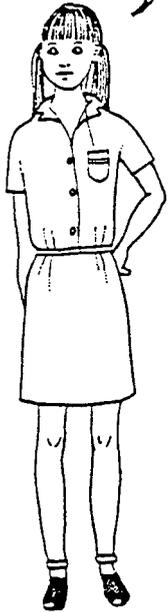
Ek is soms stout  
in die klas



Ek is nie stout  
in die klas nie



Ek gedra my soms  
in die klas

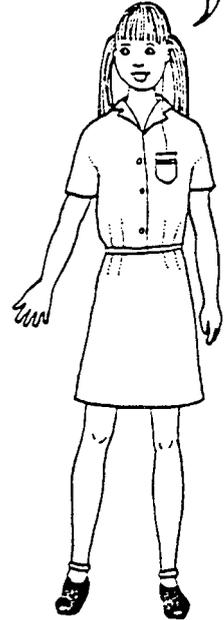


15.

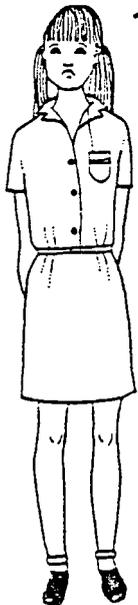
Ek gedra my nie  
in die klas nie



Ek gedra my  
in die klas

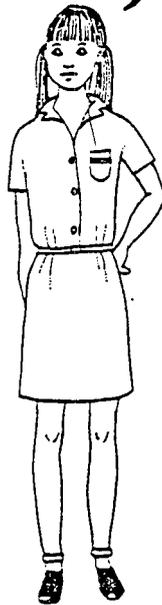


Ek doen nie my skoolwerk  
so goed soos horende  
seuns en dogters nie

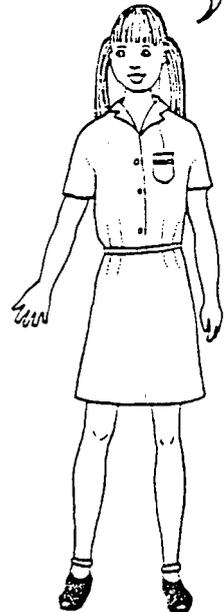


16.

Ek doen soms nie  
my skoolwerk so goed  
soos horende seuns  
en dogters nie



Ek doen my skoolwerk  
so goed soos  
horende seuns en  
dogters

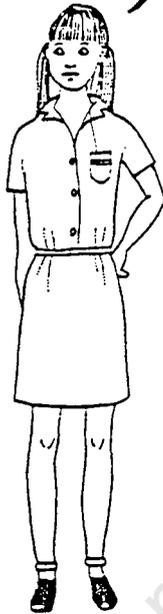


My onderwyser dink ek is lui

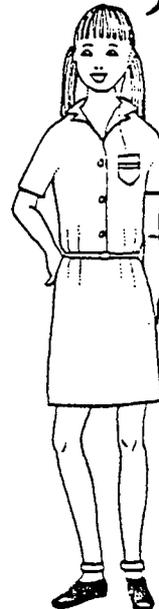


17.

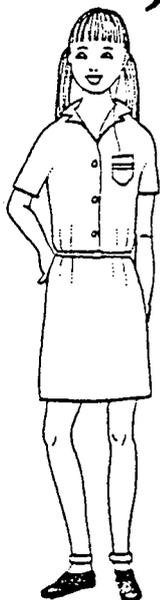
My onderwyser dink dat ek soms hard werk



My onderwyser dink dat ek hard werk

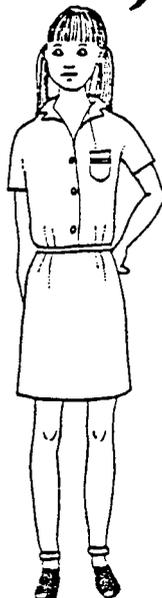


Ek kan met my onderwyser praat



18.

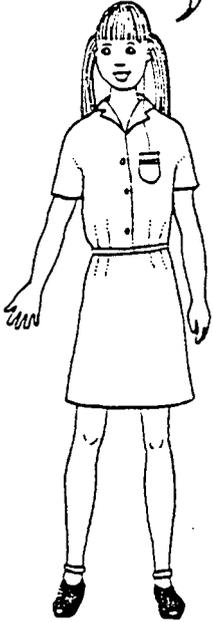
Ek kan soms met my onderwyser praat



Ek kan nie met my onderwyser praat nie



My onderwyser  
hou van my

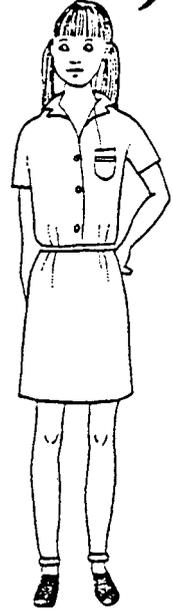


19.

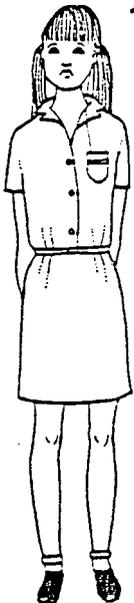
My onderwyser  
hou nie van my nie




My onderwyser  
hou soms van my

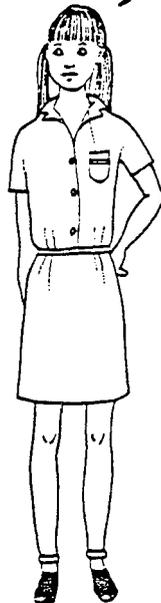



My onderwyser  
verstaan my nie

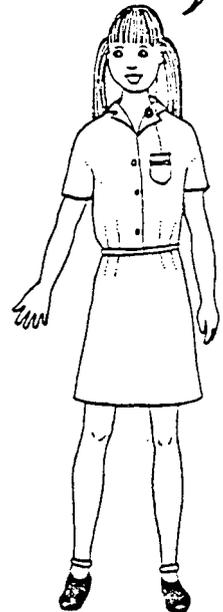


20.

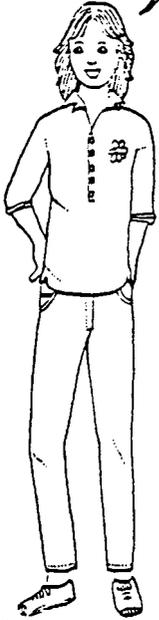
My onderwyser  
verstaan my soms




My onderwyser  
verstaan my



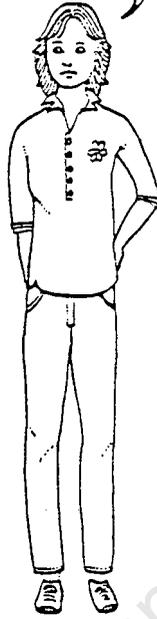
Ek is gelukkig by die huis



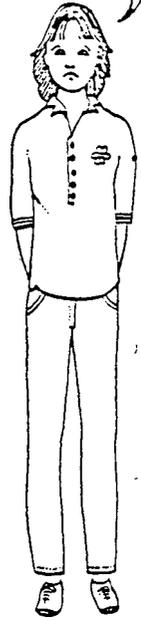
21.



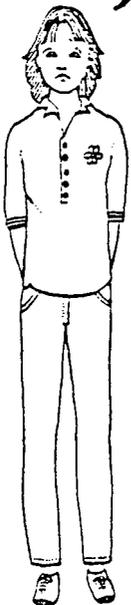
Ek is soms gelukkig by die huis



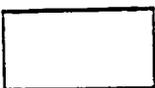
Ek is nie gelukkig by die huis nie



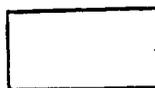
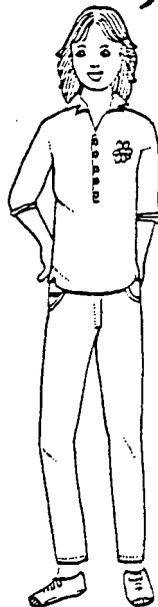
My ouers hou nie daarvan om my by hulle te hê nie



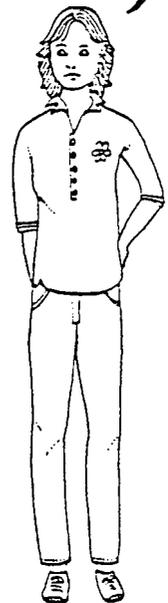
22.



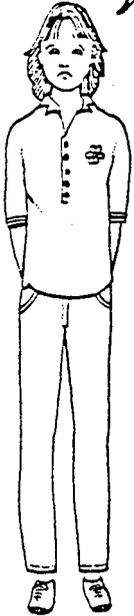
My ouers hou soms daarvan om my by hulle te hê



My ouers hou soms daarvan om my by hulle te hê

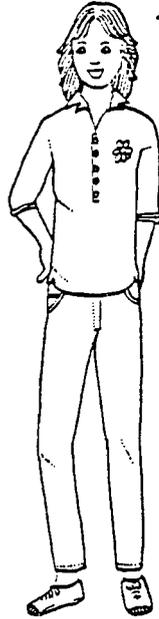


My ouers verstaan  
my nie

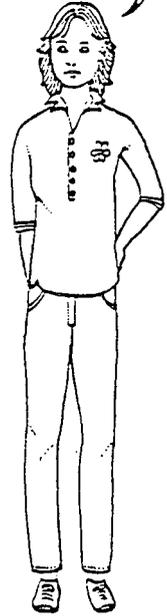


23.

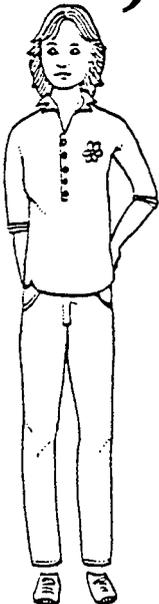
My ouers verstaan my



My ouers verstaan  
my soms

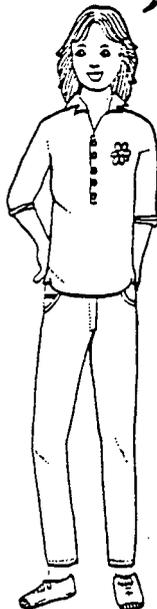


My broers en susters  
hou soms van my

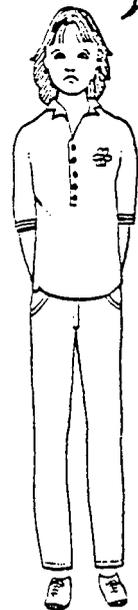


24.

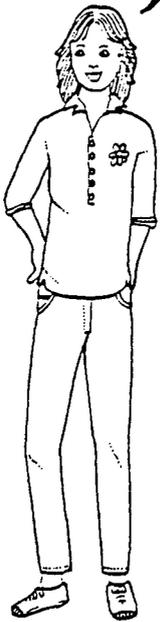
My broers en susters  
hou van my



My broers en susters  
hou nie van my nie

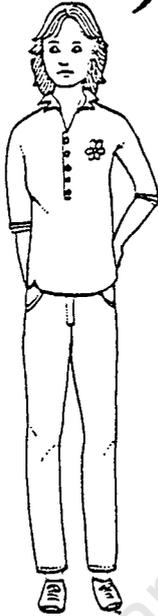


Die meeste seuns en dogters hou van my

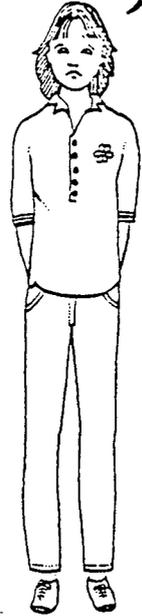


25.

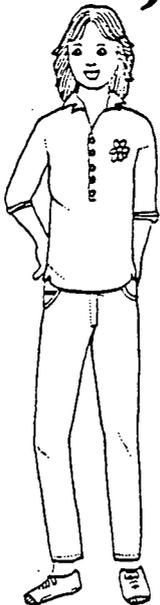
'n Paar seuns en dogters hou van my



Niemand hou van my nie

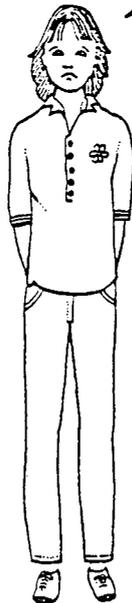


Ek baklei nie met ander seuns en dogters nie

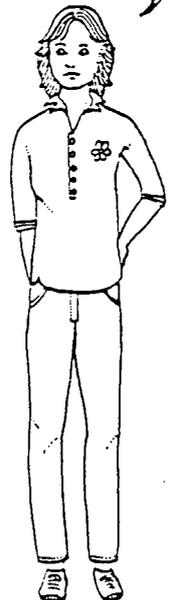


26.

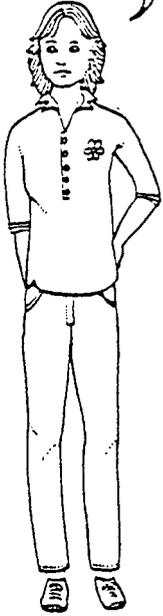
Ek baklei met ander seuns en dogters



Ek baklei soms met ander seuns en dogters

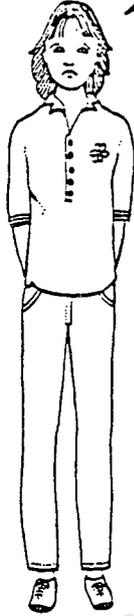


Ek is 'n bietjie soos  
ander seuns en dogters

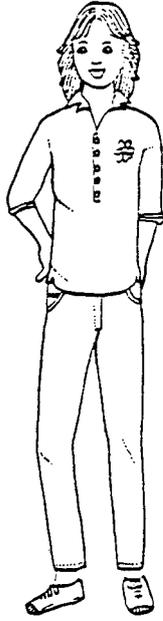


27.

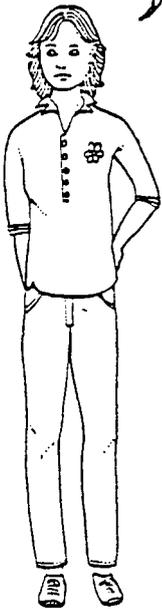
Ek is glad nie  
soos ander seuns  
en dogters nie



Ek is net soos  
ander seuns en dogters



Ek het 'n paar vriende

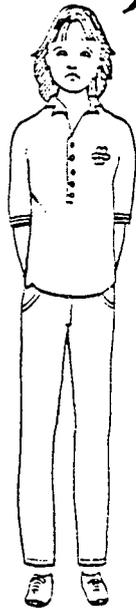


28.

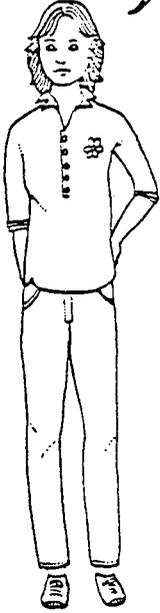
Ek het baie vriende



Ek het geen  
vriende nie



Ek kan met 'n paar seuns en dogters praat

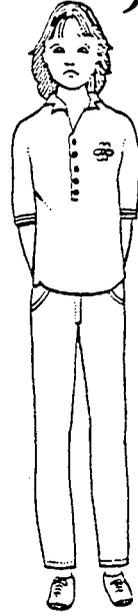


29

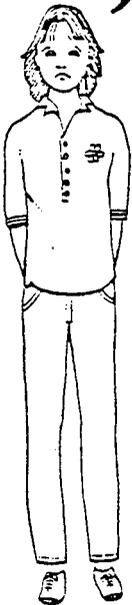
Ek kan met die meeste seuns en dogters praat



Ek kan nie met die meeste seuns en dogters praat nie

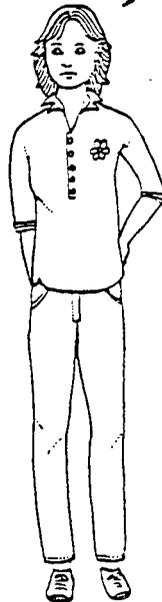


Ek voel baie anders as die meeste seuns en dogters

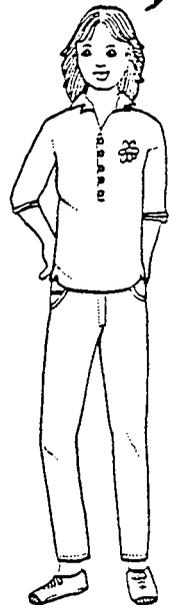


30.

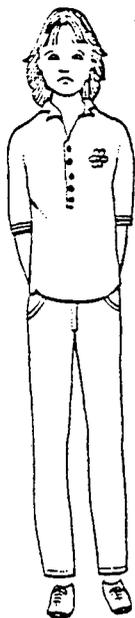
Ek voel anders as die meeste seuns en dogters



Ek voel nie anders as die meeste seuns en dogters nie

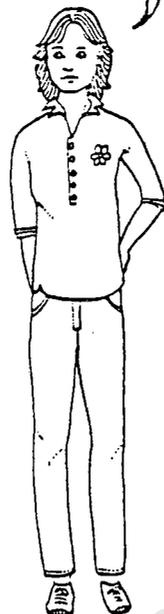


Ek is bang vir horende seuns en dogters



31.

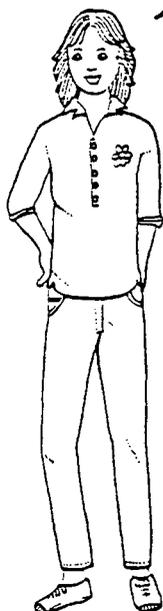
Ek is soms bang vir horende seuns en dogters




Ek is nie bang vir horende seuns en dogters nie




Ek kan alles doen wat horende seuns en dogters doen

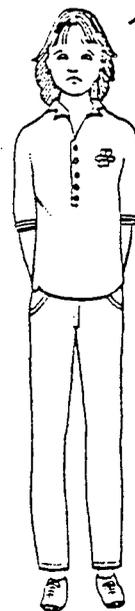


32.

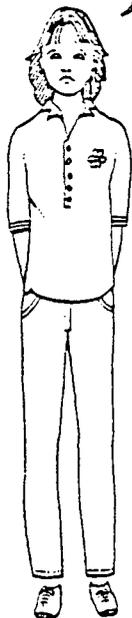
Ek kan party dinge doen wat horende seuns en dogters doen



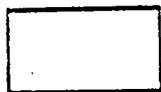

Ek kan nie die dinge doen wat horende seuns en dogters doen nie



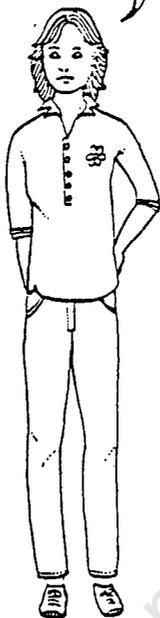
Mense dink ek is snaaks omdat ek nie goed kan hoor nie



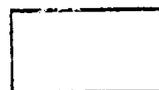
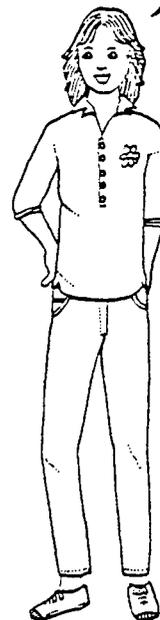
33.



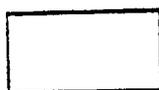
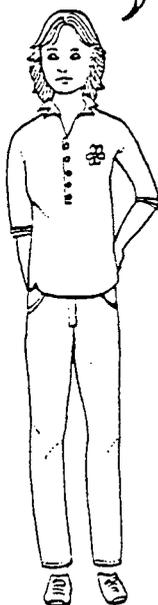
Mense dink soms ek is snaaks omdat ek nie goed kan hoor nie



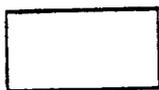
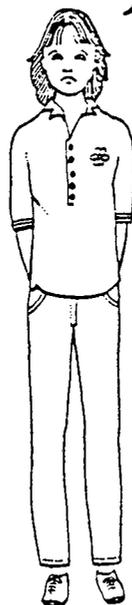
Mense dink nie ek is snaaks nie



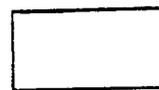
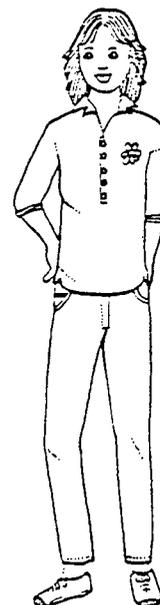
Ek speel soms dieselfde speletjies as horende seuns en dogters



Ek speel nie dieselfde speletjies as horende seuns en dogters nie

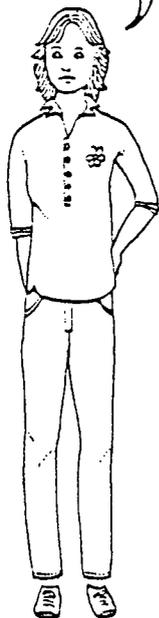


Ek speel dieselfde speletjies as horende seuns en dogters



34.

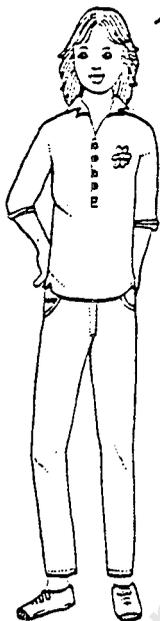
Horende seuns en dogters  
verstaan my soms



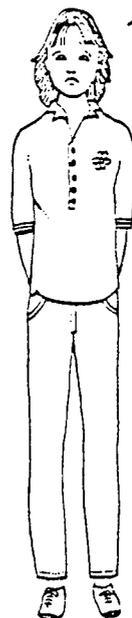
35.



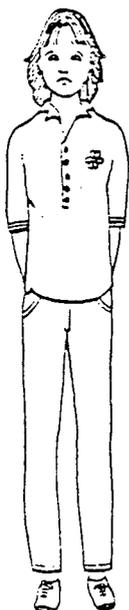
Horende seuns en  
dogters verstaan my



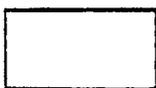
Horende seuns  
en dogters  
verstaan my nie



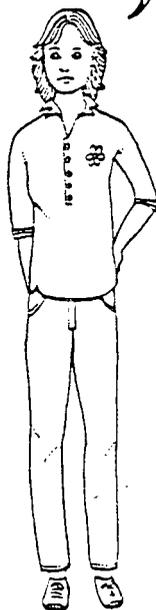
Ek kan nie na  
dieselfde plekke  
toe gaan as  
horende seuns  
en dogters nie



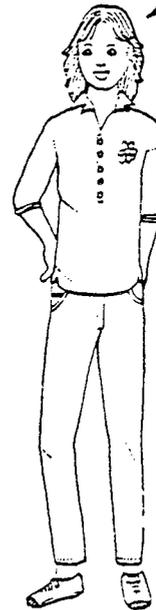
36.



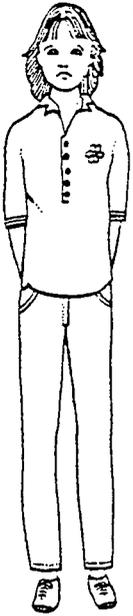
Ek kan na n paar van  
die plekke toe gaan  
as horende seuns  
en dogters



Ek kan na dieselfde  
plekke toe gaan as  
horende seuns en dogters

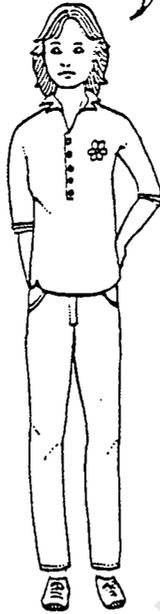


Ek doen nie sport so goed soos horende seuns en dogters nie

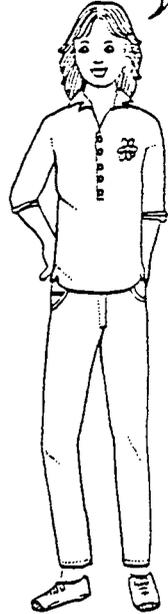


37.

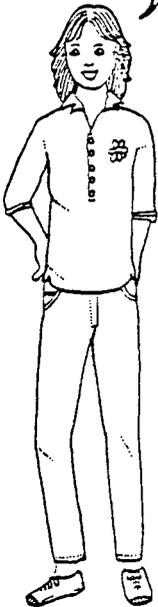
Ek doen soms sport net so goed soos horende seuns en dogters



Ek doen sport net so goed soos horende seuns en dogters



Ek verstaan televisie-programme net so goed soos horende seuns en dogters

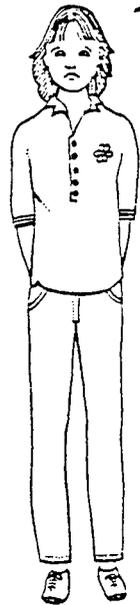


38.

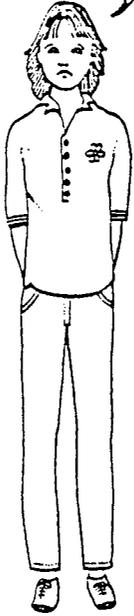
Ek verstaan soms televisie-programme net so goed soos horende seuns en dogters



Ek verstaan nie televisie-programme so goed soos horende seuns en dogters nie

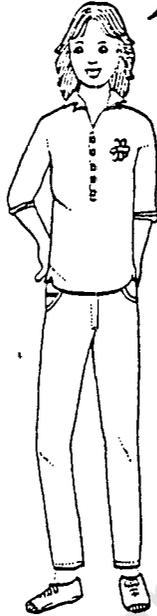


Ek kan nie met horende seuns en dogters praat nie

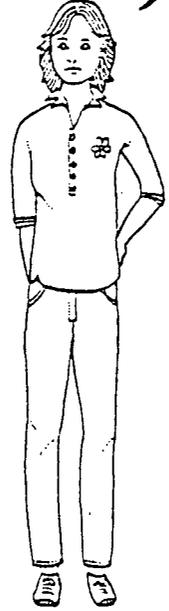


39.

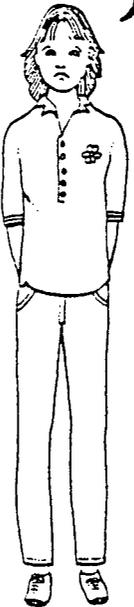
Ek kan met horende seuns en dogters praat



Ek kan soms met horende seuns en dogters praat

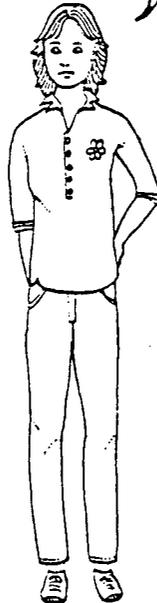


Seuns en dogters dink ek is anders omdat ek nie kan hoor nie

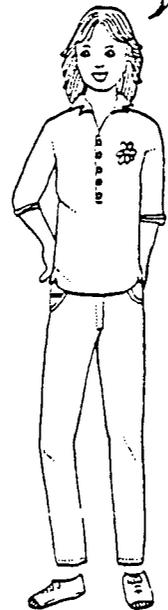


40.

Seuns en dogters dink soms ek is anders omdat ek nie kan hoor nie

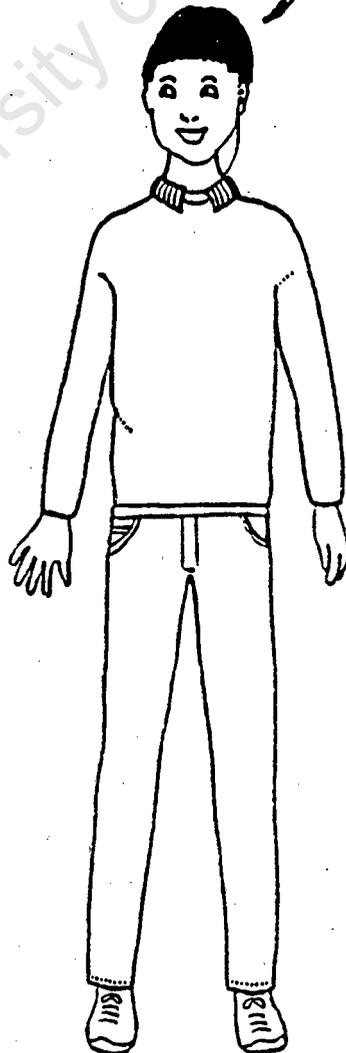


Seuns en dogters dink nie ek is anders nie



*Self Concept Scale  
for the  
Hearing Impaired*

WHICH BOY ARE YOU ?



INSTRUCTIONS:

Use the example below to demonstrate how to complete the questionnaire. Clearly indicate to the hearing-impaired student each of the following steps:

1. "Here are three boys. One boy is very happy, one is very sad, and one is not so sad or happy."

(Indicate each kind of boy).

2. "Each boy is saying something. Read what each boy is saying."

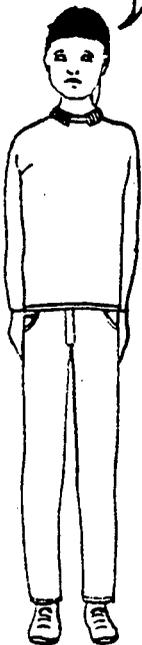
(Read and explain to the student).

3. "Which boy is like you?"

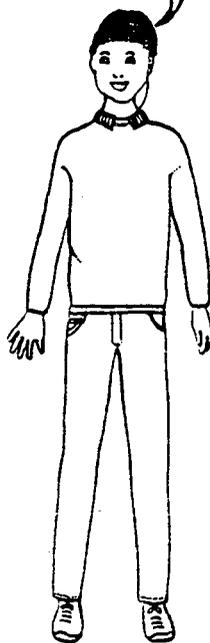
"Tick the block below the boy that is like you."

(Assist and demonstrate where necessary).

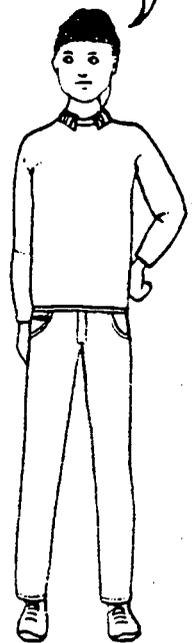
I do not  
feel happy



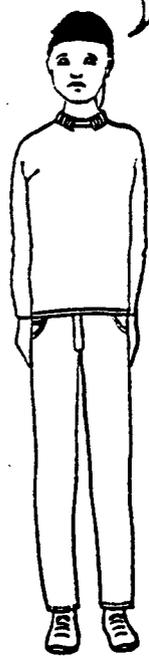
I feel  
very happy



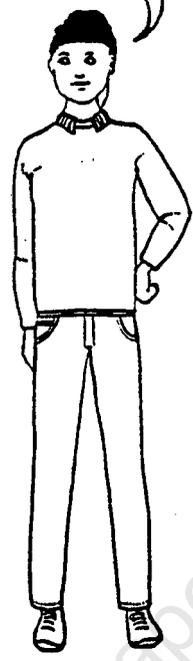
I feel happy  
sometimes



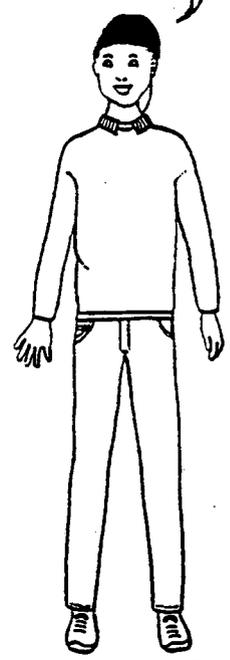
I am scared a lot



I am scared sometimes

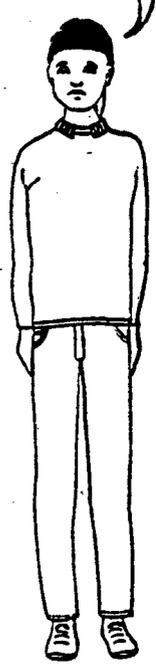


I do not get scared

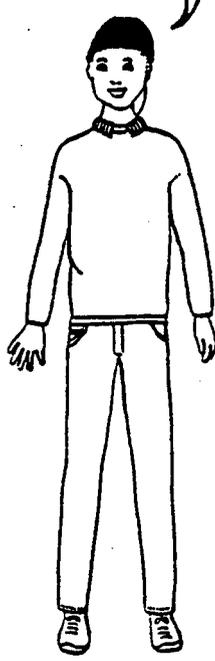


1.

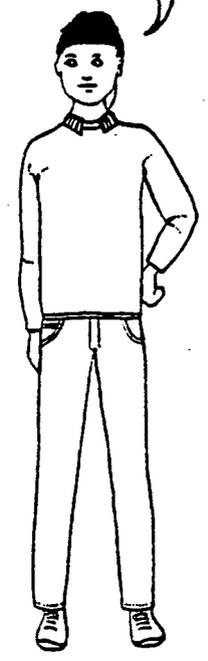
I cry a lot



I hardly ever cry

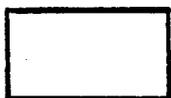
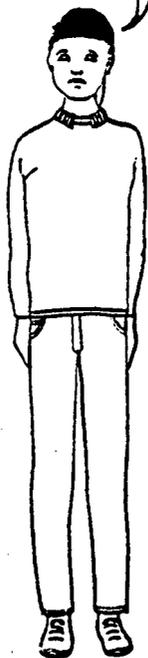


I cry sometimes



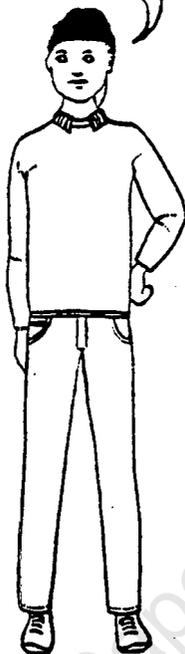
2.

I do not do well at most things

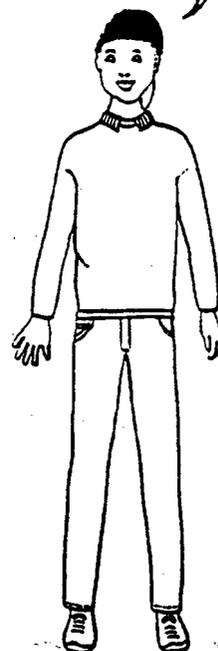


3.

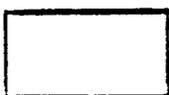
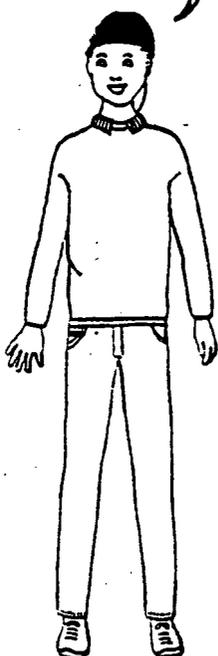
I do well at some things



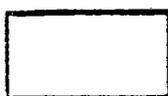
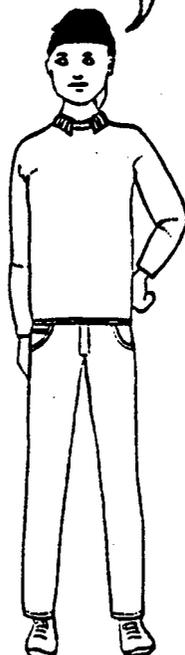
I do well at most things



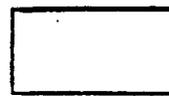
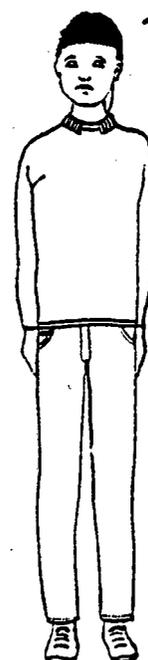
I want to wear my hearing aids



I want to wear my hearing aids sometimes

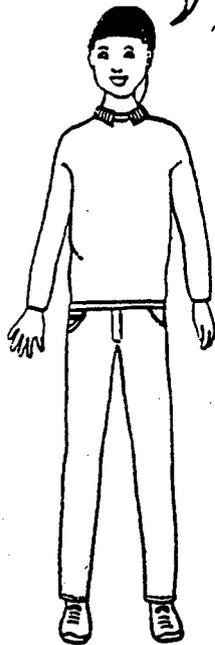


I do not want to wear my hearing aids



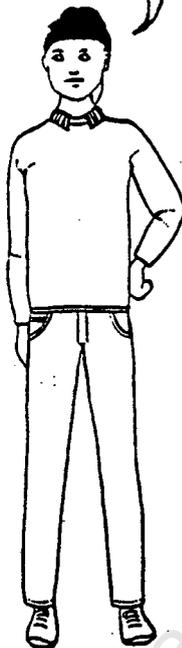
4.

I am very strong

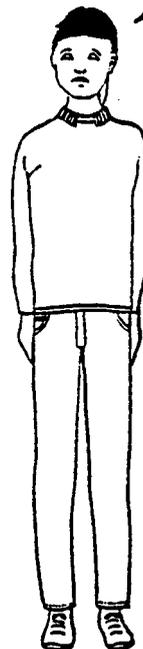


5.

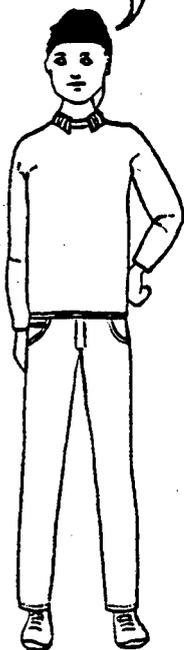
I am not so strong



I am not strong at all



I like the way I look sometimes

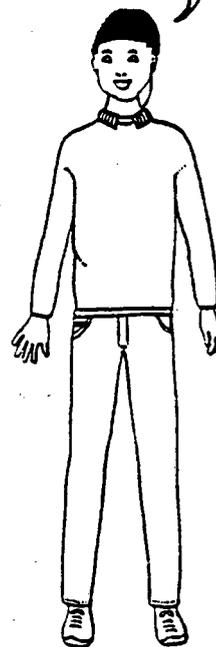


6.

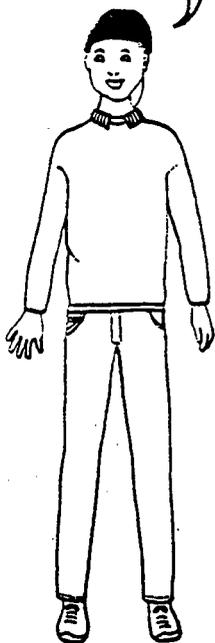
I do not like the way I look



I like the way I look

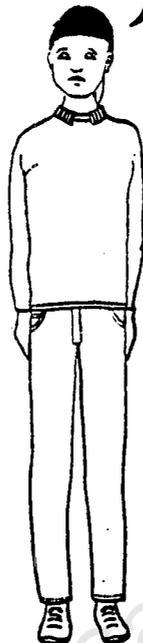


I am not clumsy

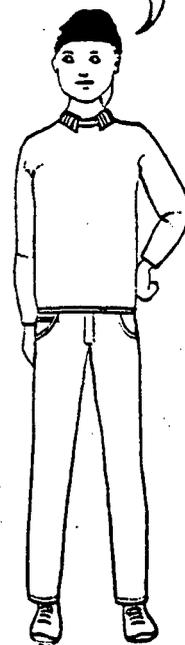


7.

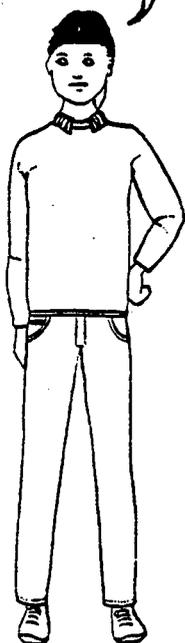
I am clumsy



I am clumsy sometimes

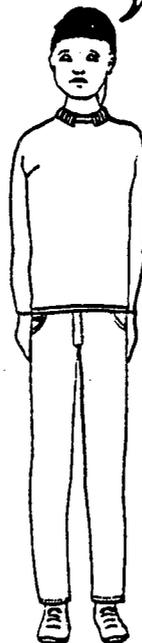


I am sick sometimes

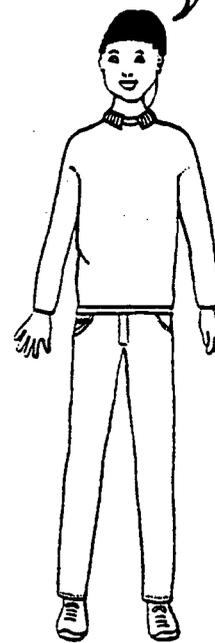


8.

I am sick a lot



I hardly get sick

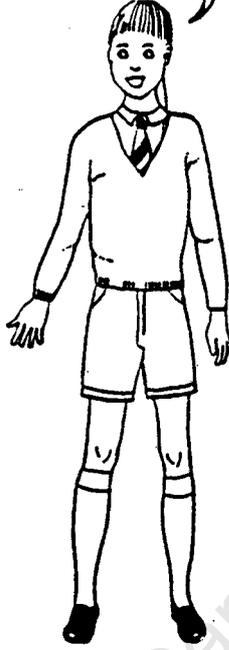


I am sometimes happy at school



9.

I am happy at school



I am not happy at school



I am not clever at school

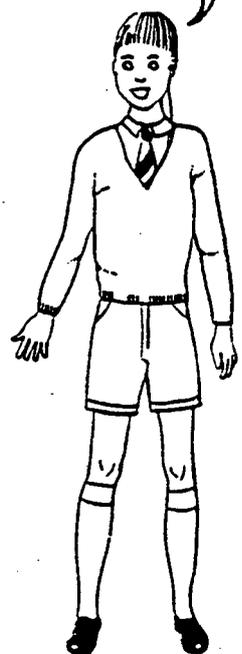


10.

I am clever at school sometimes



I am clever at school



I do not do well  
at schoolwork



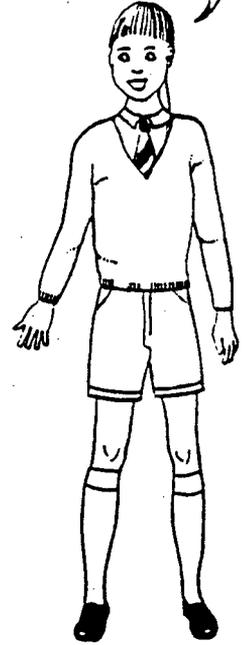
11.



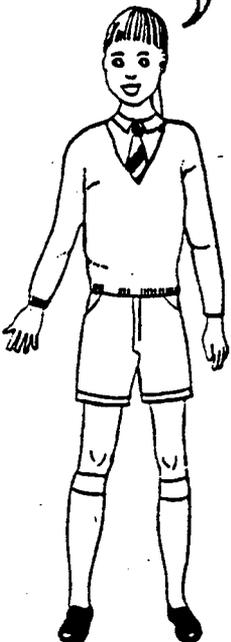
I sometimes do well  
at schoolwork



I do well at  
schoolwork



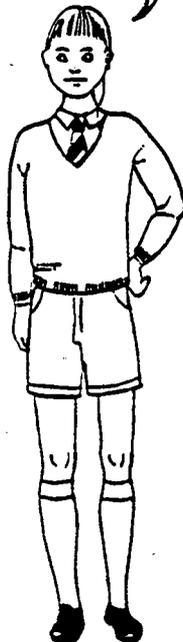
In the morning  
I like to go  
to school



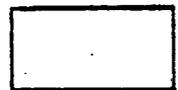
12.



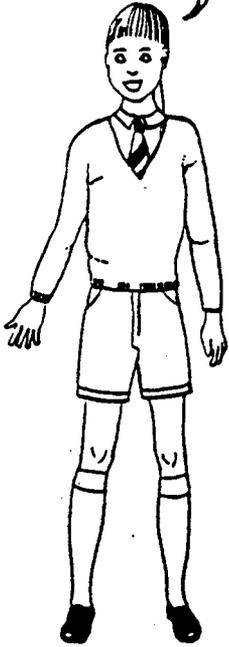
In the morning  
I sometimes like  
to go to school



In the morning  
I do not like  
to go to school



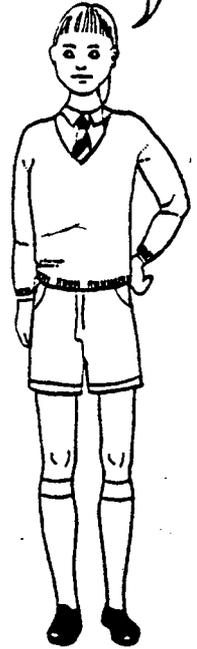
I try my best at school



I do not try my best at school



I sometimes try my best at school

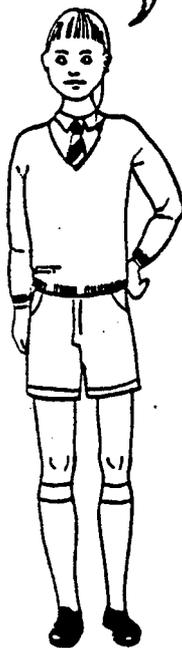


13.

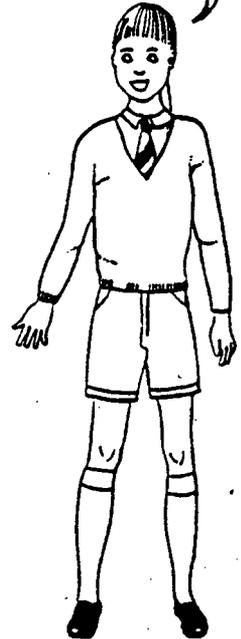
I am naughty in class



I am sometimes naughty in class

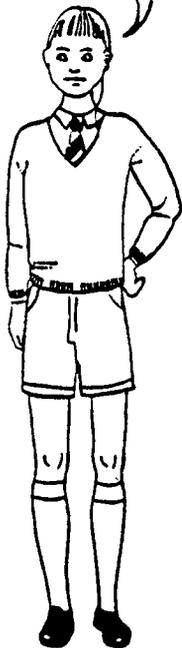


I am not naughty in class



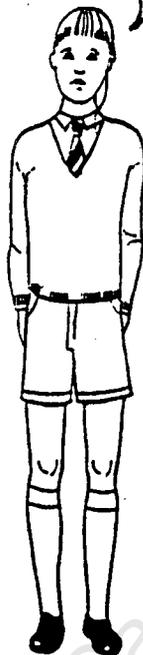
14.

I sometimes behave well in class

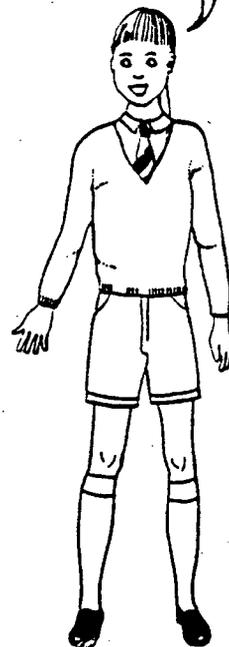


15.

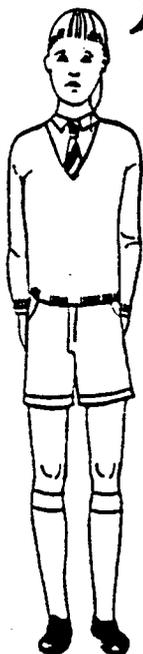
I do not behave in class



I behave well in class

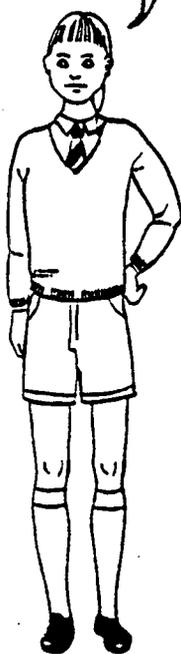


I do not do schoolwork as well as hearing boys and girls

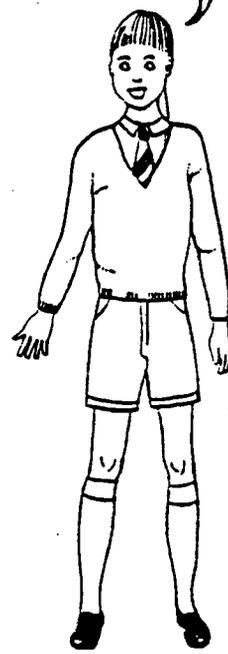


16.

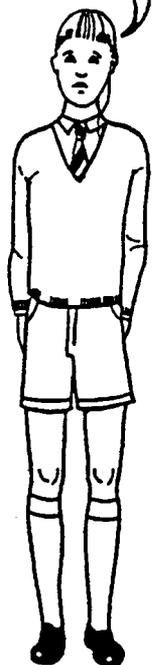
I do some schoolwork as well as hearing boys and girls



I do schoolwork as well as hearing boys and girls

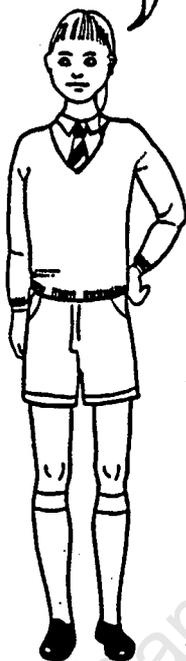


My teacher thinks  
I am lazy

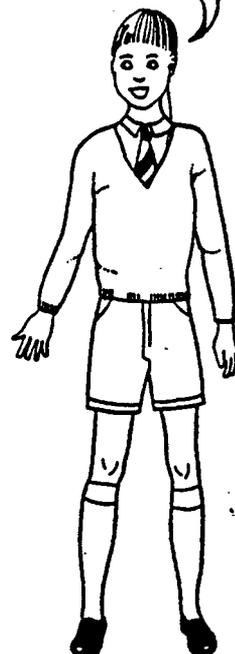


17.

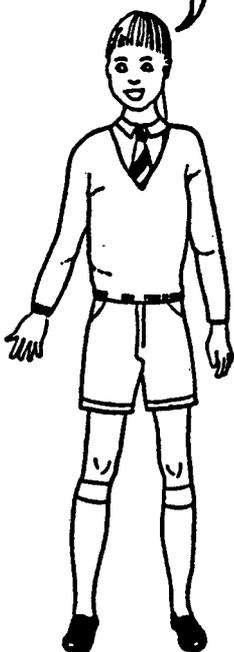
My teacher thinks  
I work hard sometimes



My teacher thinks  
I work hard



I can talk to  
my teacher

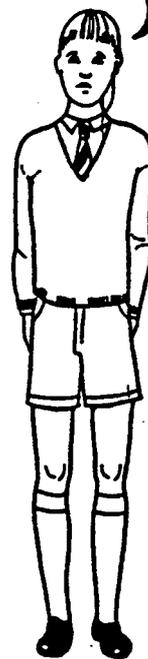


18.

I can sometimes  
talk to my teacher



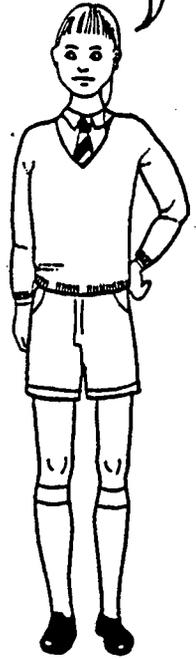
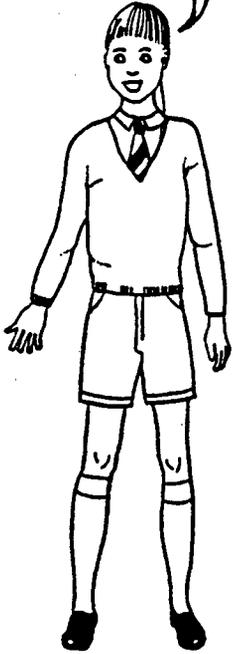
I cannot talk  
to my teacher



My teacher likes me

My teacher does  
not like me

My teacher likes  
me sometimes

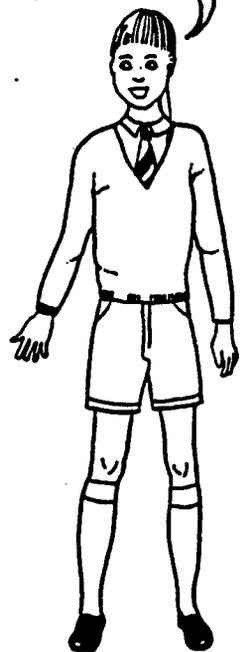
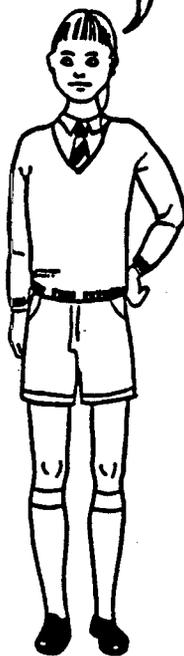
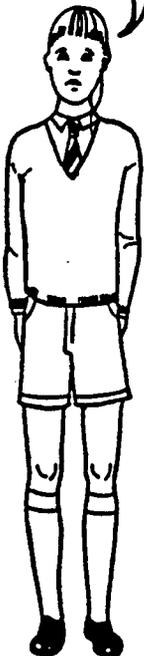


19.

My teacher does not  
understand me

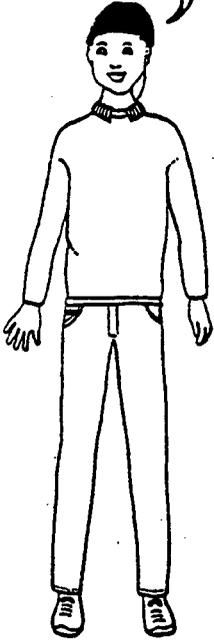
My teacher understands  
me sometimes

My teacher  
understands me

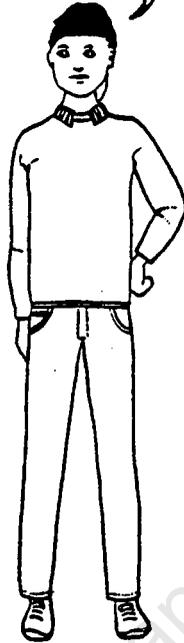


20.

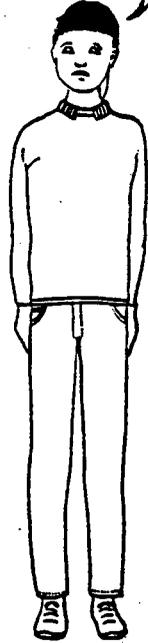
I am happy at home



I am happy at home sometimes

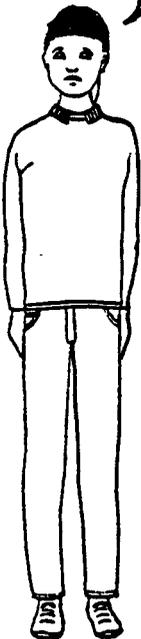


I am not happy at home

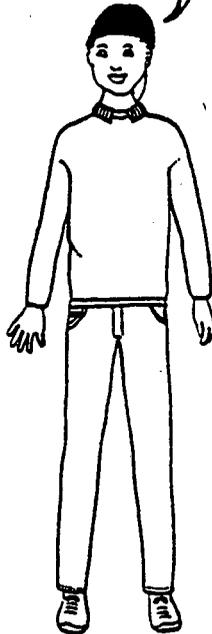


21.

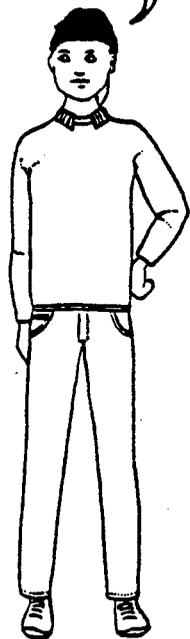
My parents do not like to have me with them



My parents like to have me with them

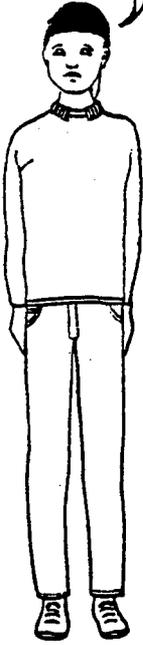


My parents like to have me with them sometimes



22.

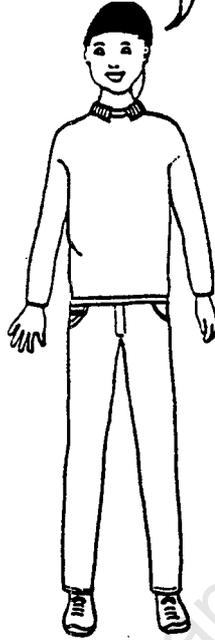
My parents do not understand me



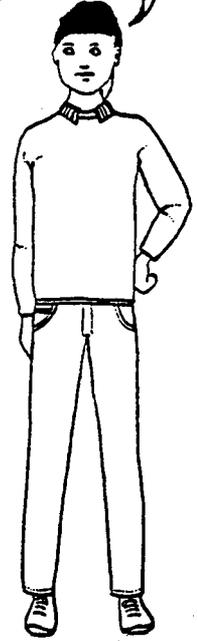
23.



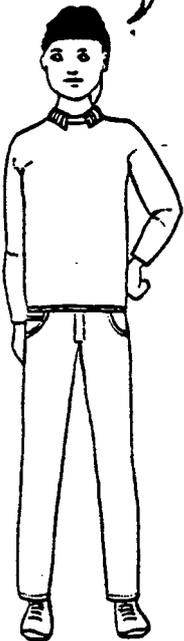
My parents understand me



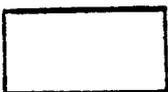
My parents understand me sometimes



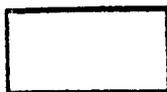
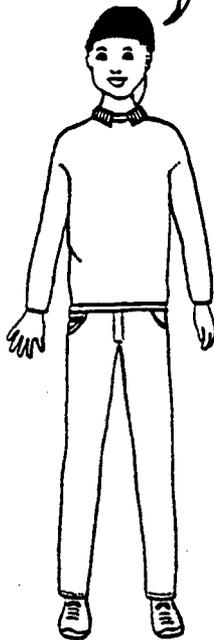
My brothers and sisters like me sometimes



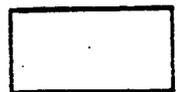
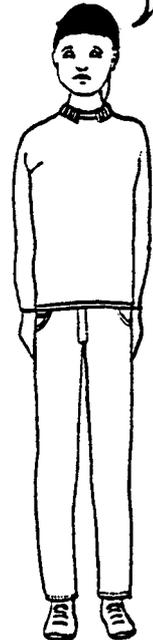
24.



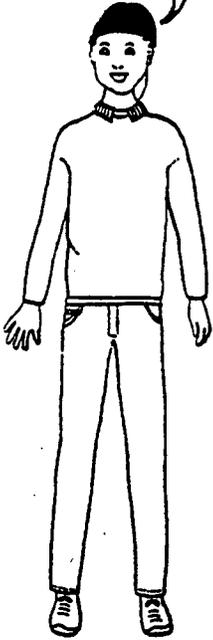
My brothers and sisters like me



My brothers and sisters do not like me

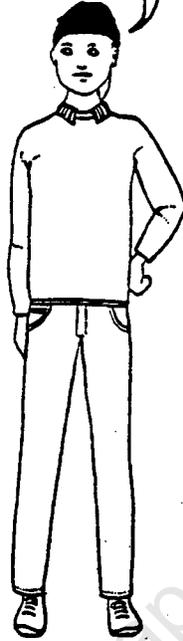


I am liked by most boys and girls

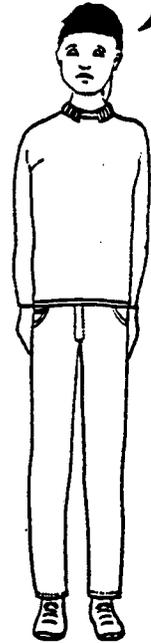


25.

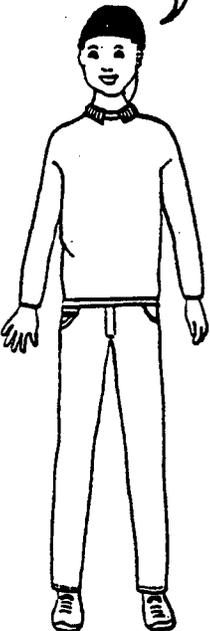
A few boys and girls like me



No-one likes me

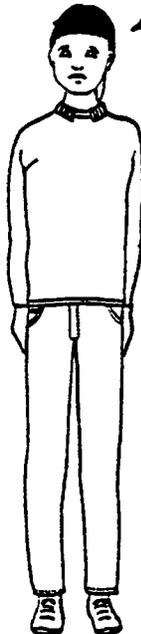


I do not fight with other boys and girls

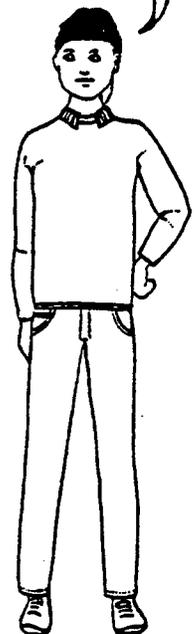


26.

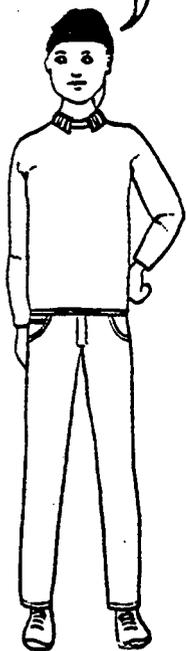
I fight with other boys and girls



I sometimes fight with other boys and girls

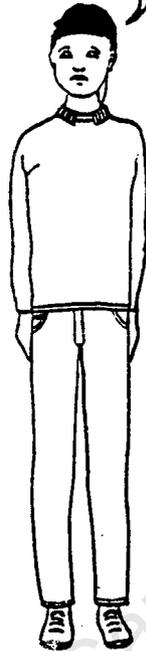


I am a little like other boys and girls

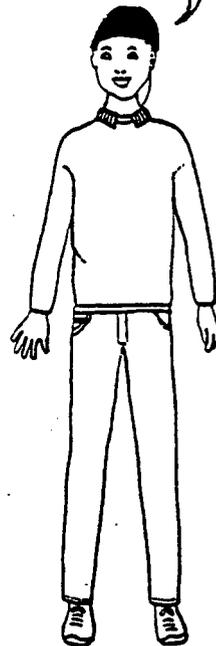


27.

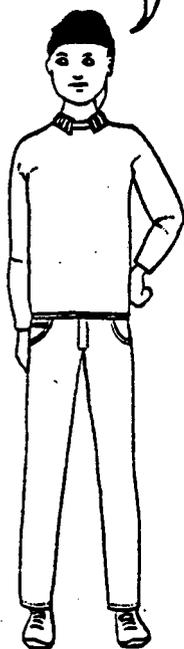
I am not like other boys and girls



I am just like other boys and girls

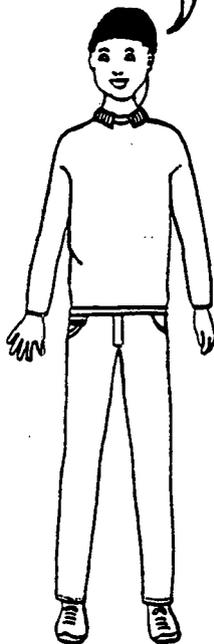


I have a few friends

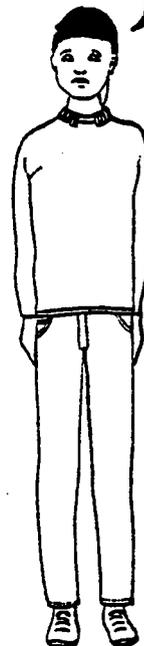


28.

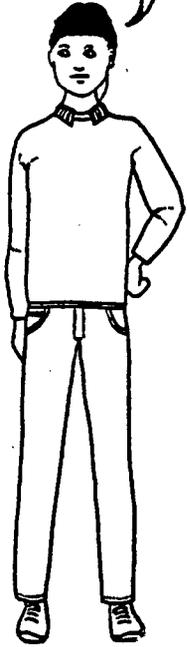
I have many friends



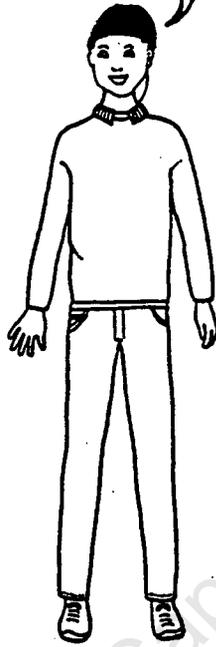
I have no friends



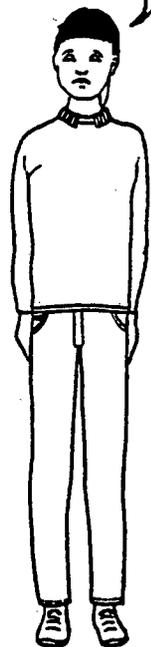
I can talk to a few boys and girls



I can talk to most boys and girls

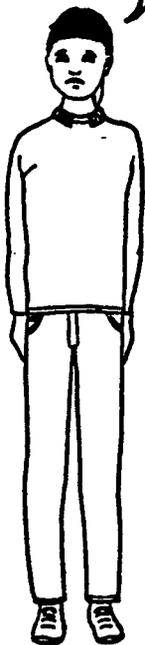


I cannot talk to most boys and girls

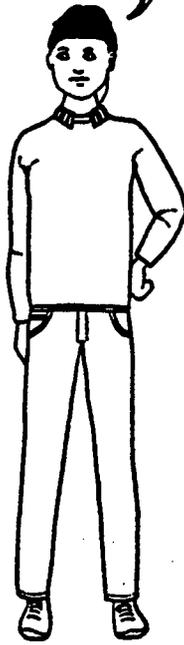


29.

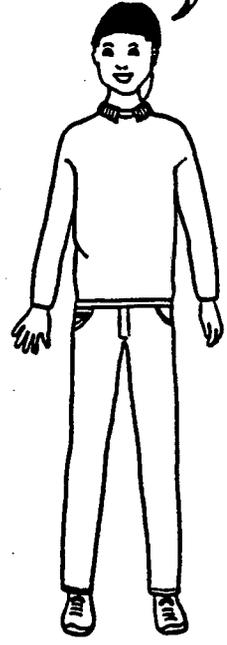
I feel very different from most boys and girls



I feel different from most boys and girls

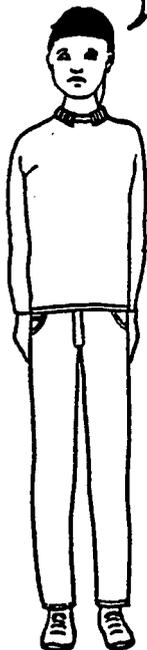


I do not feel different from most boys and girls



30.

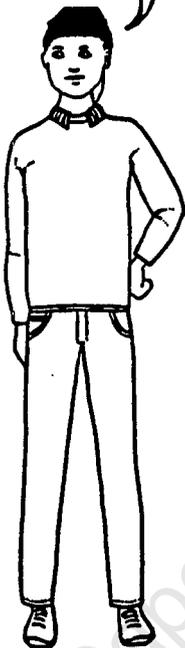
I am scared of hearing boys and girls



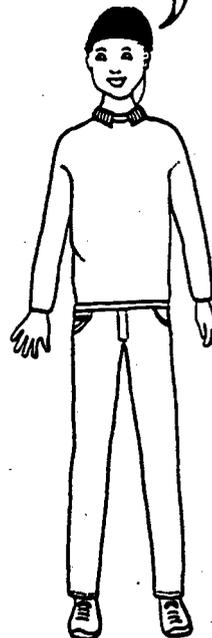
31



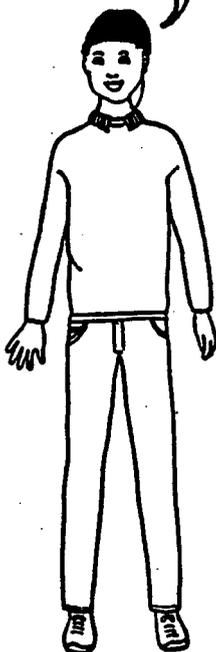
I am sometimes scared of hearing boys and girls



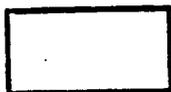
I am not scared of hearing boys and girls



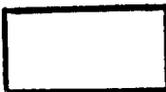
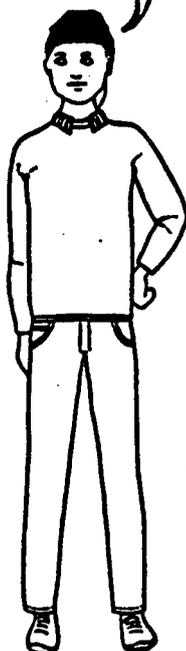
I can do the things that hearing boys and girls do



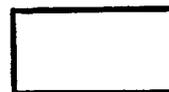
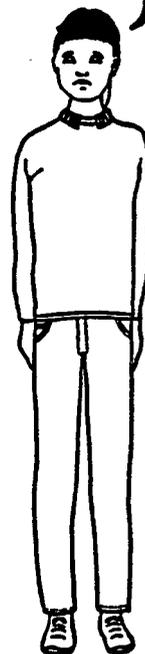
32.



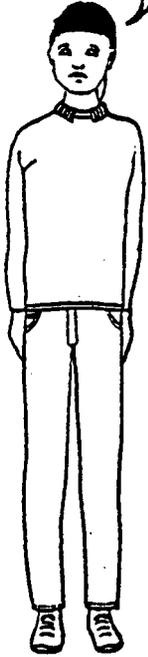
I can do a few of the things that hearing boys and girls do



I cannot do the things that hearing boys and girls do



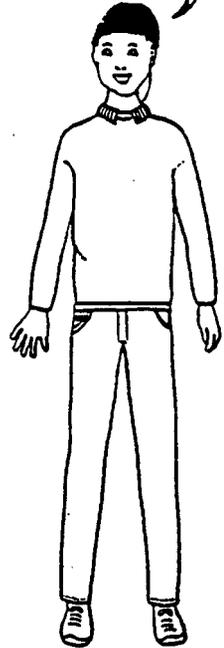
People think I am funny because I cannot hear well



People sometimes think I am funny because I cannot hear well

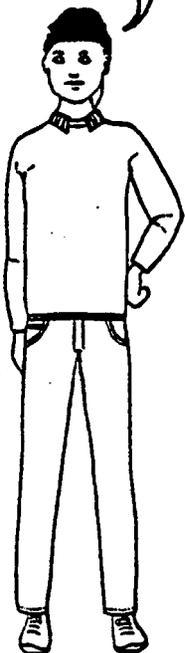


People do not think I am funny

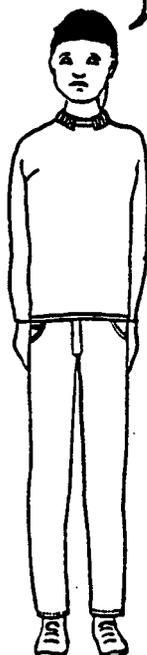


33.

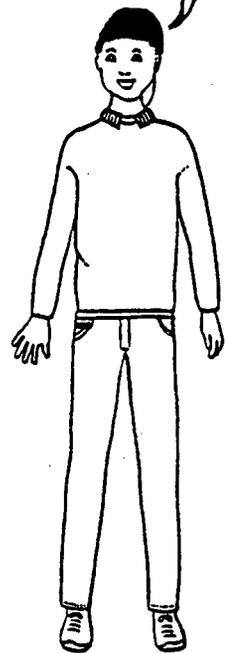
I sometimes play the same games as hearing boys and girls



I do not play the same games as hearing boys and girls

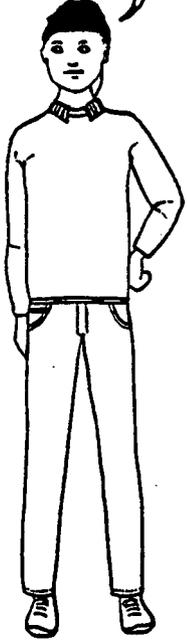


I play the same games as hearing boys and girls



34.

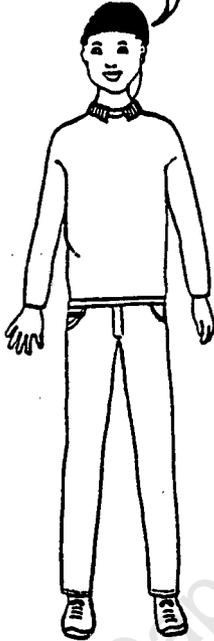
Hearing boys and girls understand me sometimes



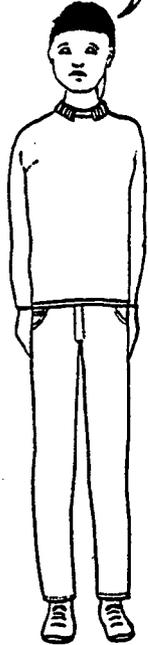
35.



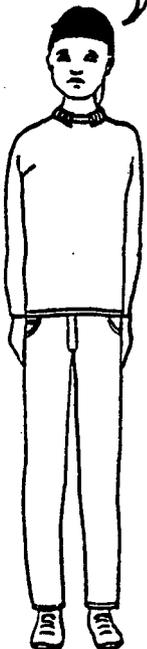
Hearing boys and girls understand me



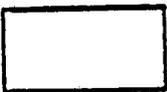
Hearing boys and girls do not understand me



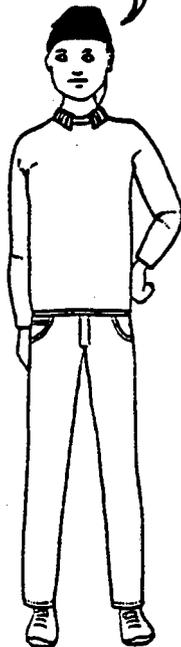
I cannot go to the same places as hearing boys and girls



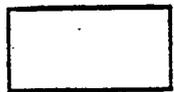
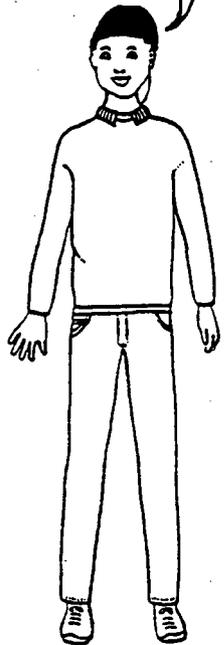
36.



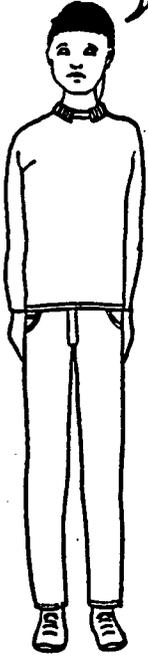
I can go to a few of the same places as hearing boys and girls



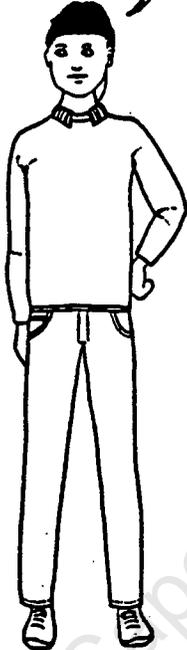
I can go to the same places as hearing boys and girls



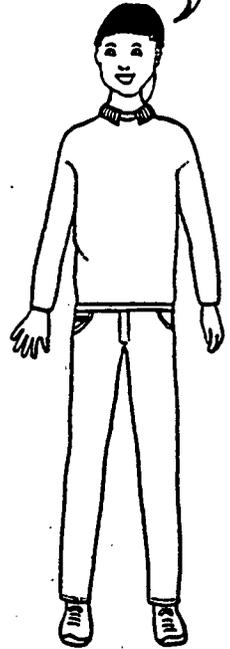
I do not play sport  
as well as hearing  
boys and girls



I sometimes play sport  
as well as hearing  
girls and boys



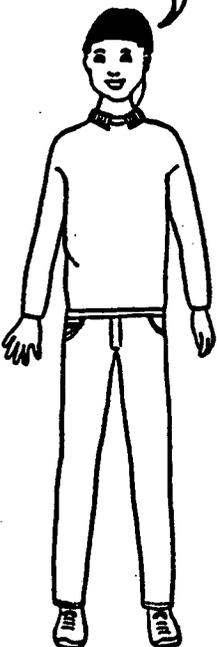
I play sport as well as  
hearing boys and girls



37.



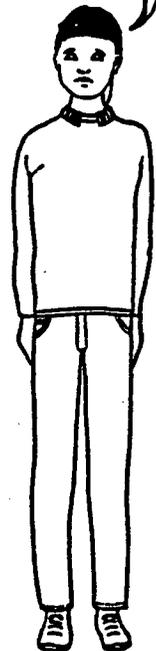
I can understand  
television as well as  
hearing boys and girls



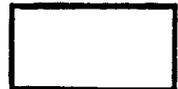
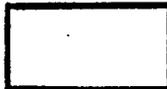
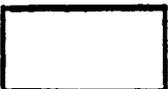
I can sometimes  
understand television  
as well as hearing  
boys and girls



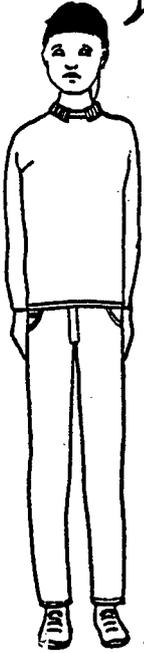
I cannot understand  
television as well as  
hearing boys and girls



38.

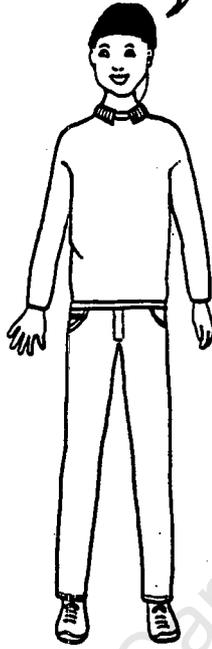


I cannot talk to hearing boys and girls

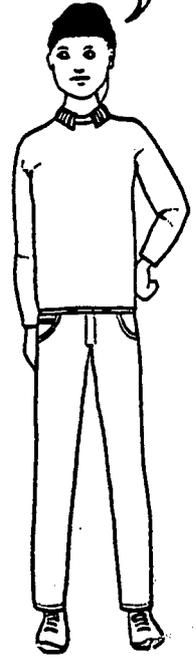


39.

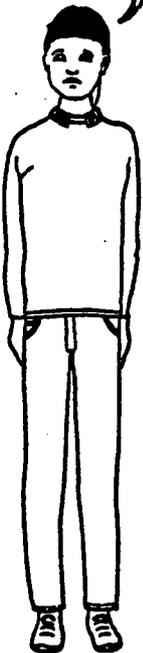
I can talk to hearing boys and girls



I can talk to hearing boys and girls sometimes

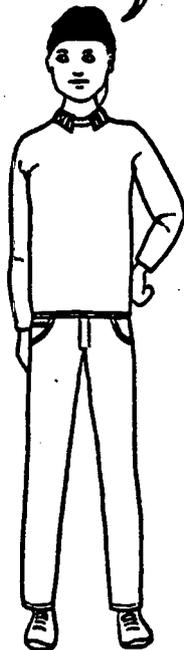


Boys and girls think I am different because I cannot hear

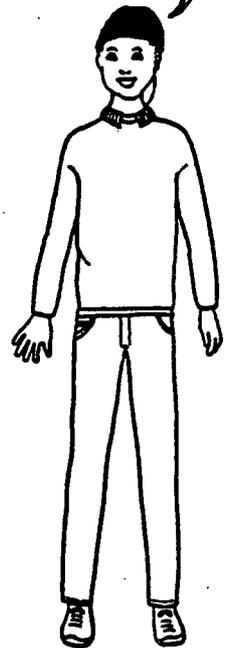


40.

Boys and girls think I am a little different because I cannot hear

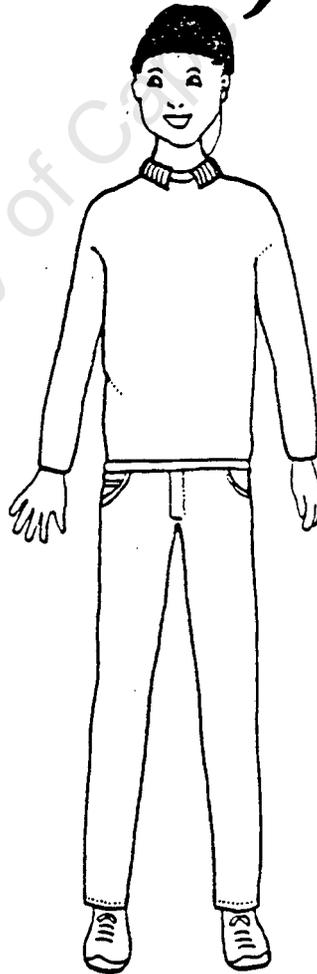


Boys and girls think I am the same as them



Selfkonsepskaal  
vir  
Gehoorgestremdes

WATTER SEUNTJIE IS JY ?

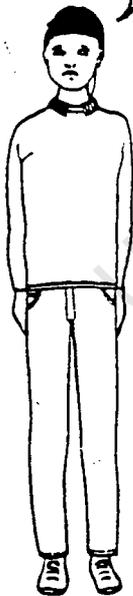


INSTRUKSIES:

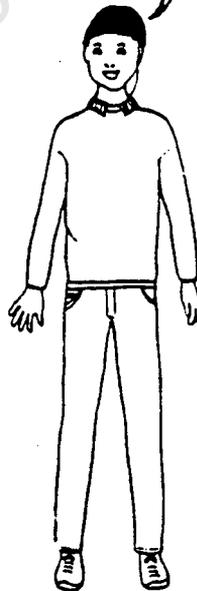
Gebruik die voorbeeld hieronder om te demonstreer hoe die vraelys voltooi moet word. Verduidelik aan die gehoorgestremde leerling elkeen van die volgende stappe:

1. "Hier is drie seuntjies. Een seuntjie is baie gelukkig (bly), een is baie ongelukkig (treurig), en die ander een is nie so baie gelukkig of ongelukkig nie."  
(Wys elke seuntjie duidelik.)
2. "Elke seuntjie sê iets. Lees wat elke seuntjie sê."  
(Lees en verduidelik aan leerling.)
3. "Watter seuntjie is soos jy?"  
"Merk die blokkie onder die seuntjie wat net soos jy is."  
(Help en as dit nodig is demonstreer.)

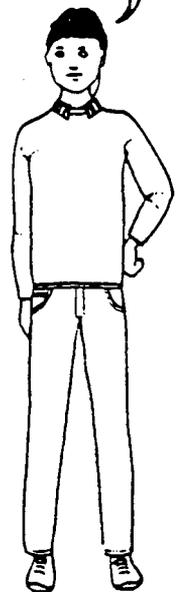
Ek voel nie  
gelukkig nie



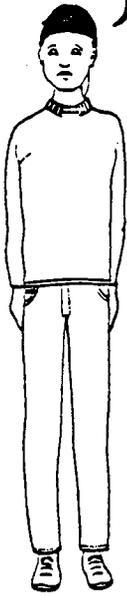
Ek voel baie  
gelukkig



Ek voel soms  
gelukkig

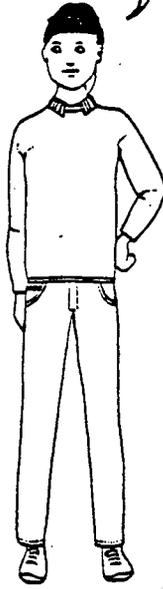


Ek is dikwels bang

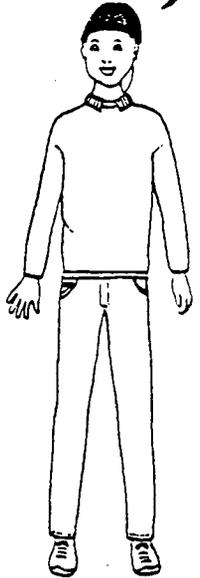


1.

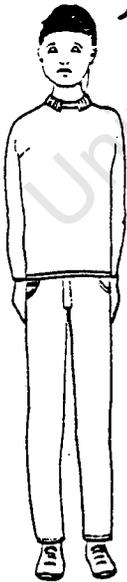
Ek is soms bang



Ek word nie bang nie

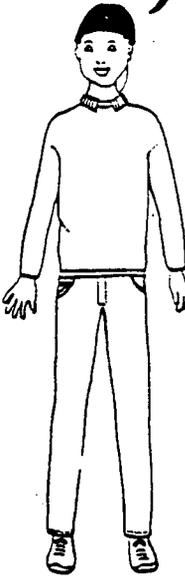


Ek huil baie

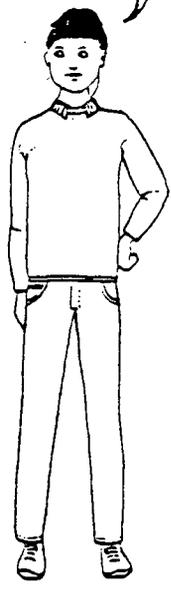


2.

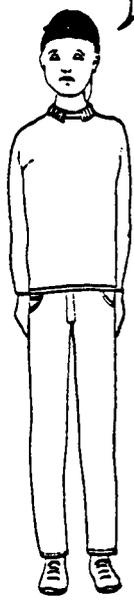
Ek huil amper nooit nie



Ek huil soms

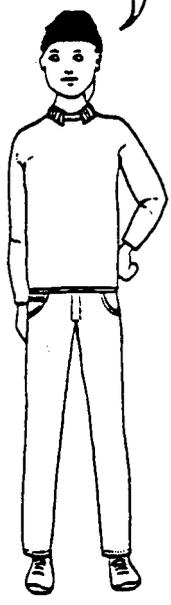


Ek doen die meeste dinge nie goed nie

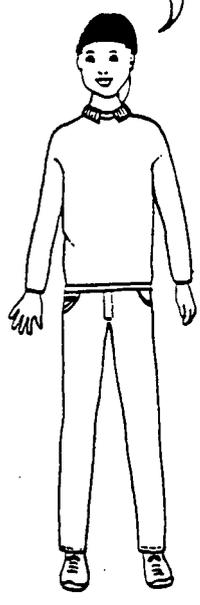


3.

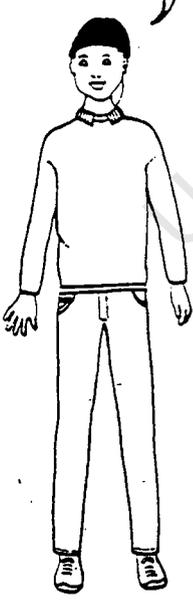
Ek doen party dinge goed



Ek doen die meeste dinge goed

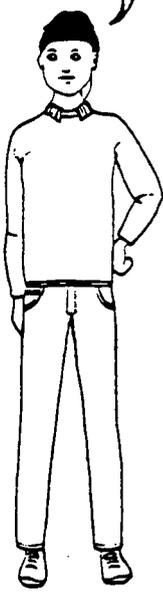


Ek wil graag my gehoorapparaat dra

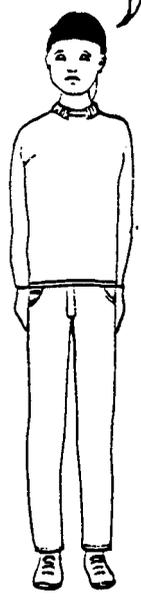


4.

Ek wil soms my gehoorapparaat dra

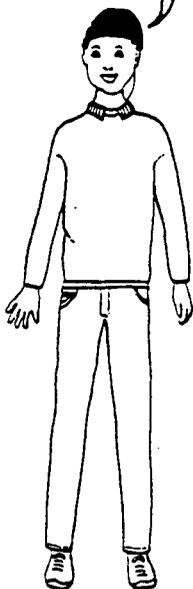


Ek wil nie my gehoorapparaat dra nie



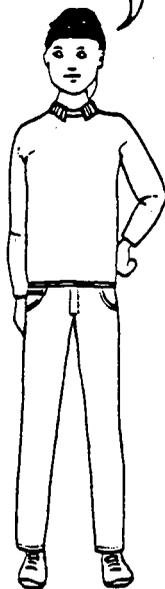
University of Cape Town

Ek is baie sterk

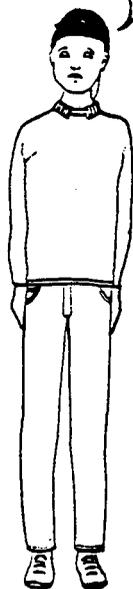


5.

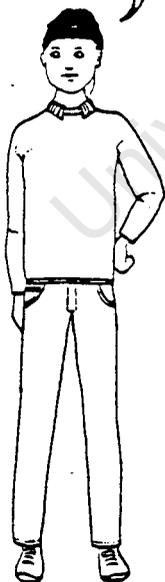
Ek is nie so sterk nie



Ek is glad nie sterk nie

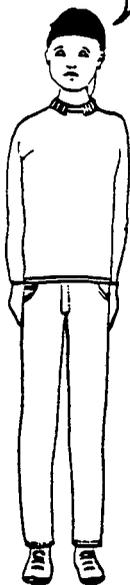


Ek hou soms van hoe ek lyk

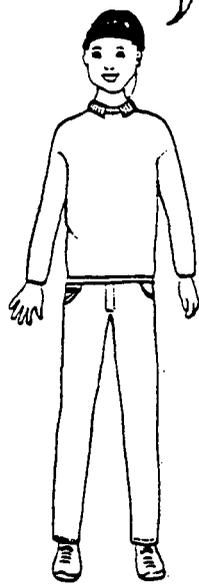


6.

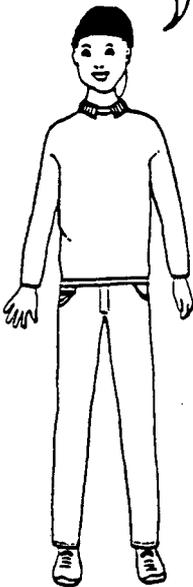
Ek hou nie van hoe ek lyk nie



Ek hou van hoe ek lyk

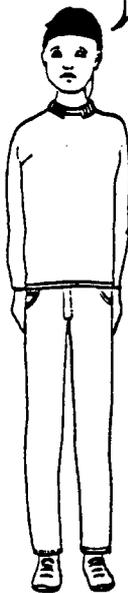


Ek is nie lomp nie

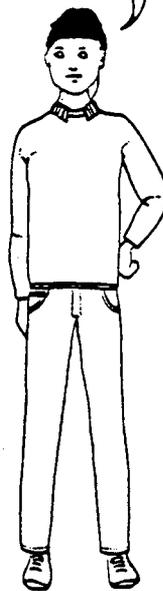


7.

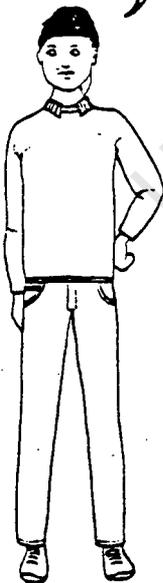
Ek is lomp



Ek is soms lomp

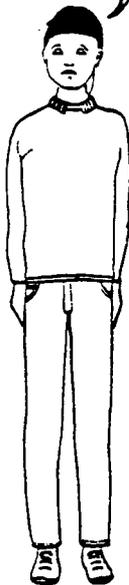


Ek word soms siek

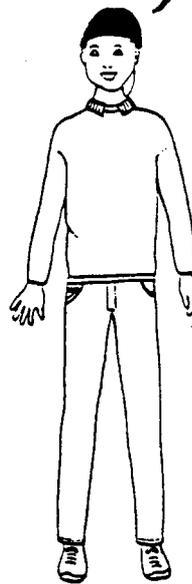


8.

Ek word dikwels siek



Ek word byna nooit siek nie

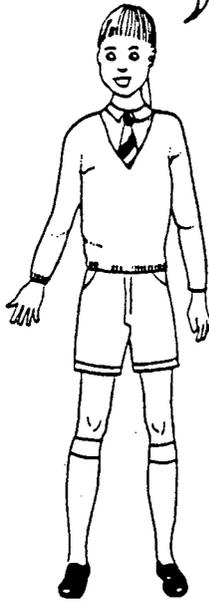


Ek is soms gelukkig op skool



9.

Ek is gelukkig op skool



Ek is nie gelukkig op skool nie



Ek is nie slim op skool nie

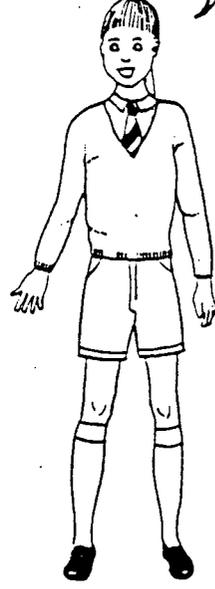


10.

Ek is soms slim op skool

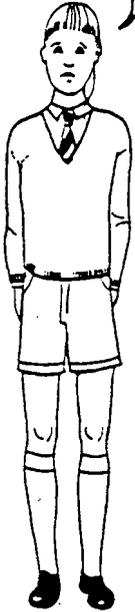


Ek is slim op skool



University of Cape Town

Ek doen nie goed  
in my skoolwerk nie

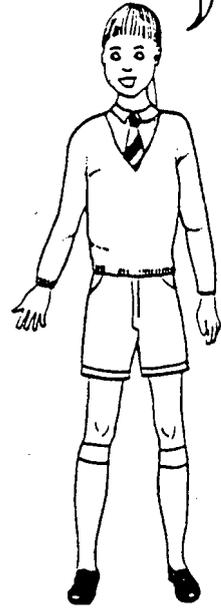


11.

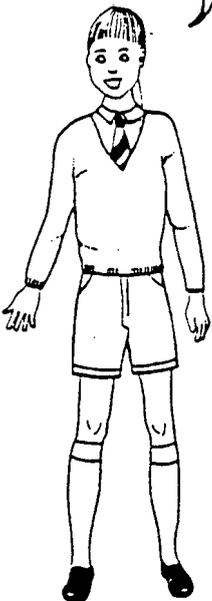
Ek doen soms goed  
in my skoolwerk




Ek doen goed  
in my skoolwerk




In die oggend  
hou ek daarvan  
om skool toe te gaan

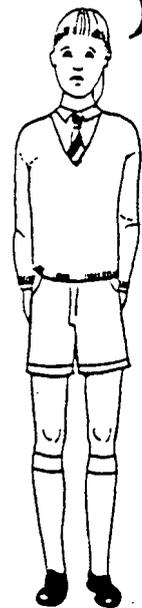


12.

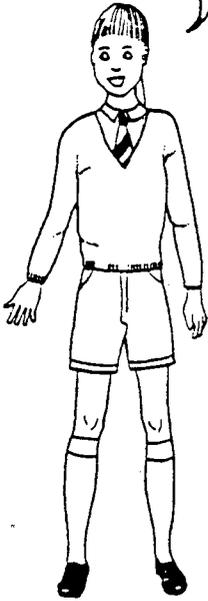
In die oggend  
hou ek soms  
daarvan om skool  
toe te gaan




In die oggend  
hou ek nie daarvan  
om skool toe te gaan nie



Ek probeer  
my bes op skool

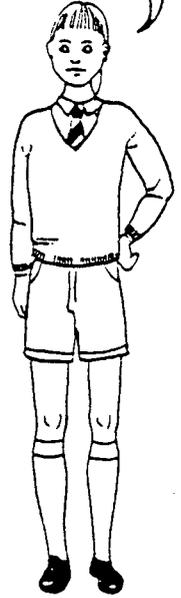


13.

Ek probeer nie  
my bes op skool nie



Ek probeer soms  
my bes op skool



Ek is stout  
in die klas

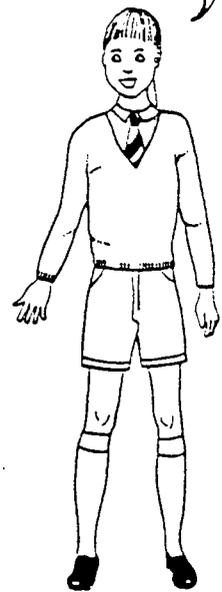


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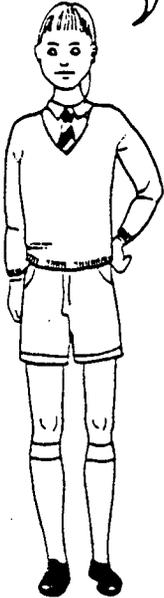
Ek is soms stout  
in die klas



Ek is nie stout  
in die klas nie



Ek gedra my soms  
in die klas

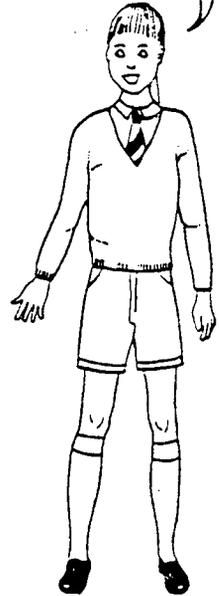


15.

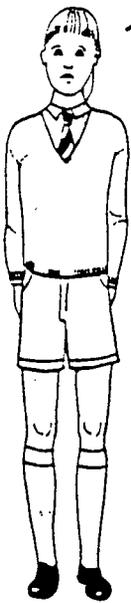
Ek gedra my nie  
in die klas nie




Ek gedra my  
in die klas

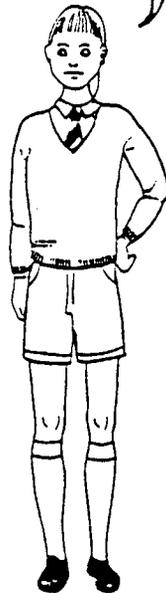



Ek doen nie my skoolwerk  
so goed soos horende  
seuns en dogters nie

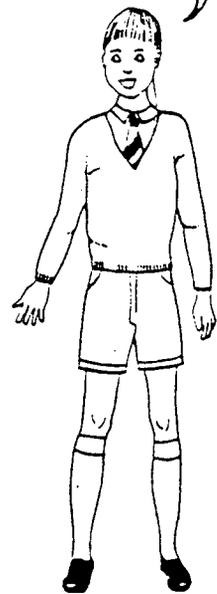


16.

Ek doen soms nie  
my skoolwerk so goed  
soos horende seuns  
en dogters nie




Ek doen my skoolwerk  
so goed soos  
horende seuns en  
dogters



My onderwyser dink  
ek is lui

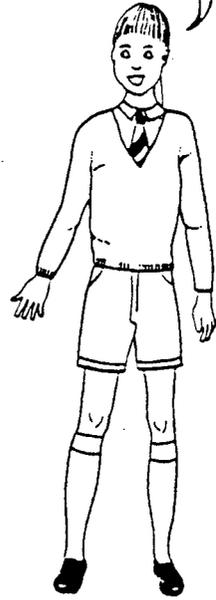


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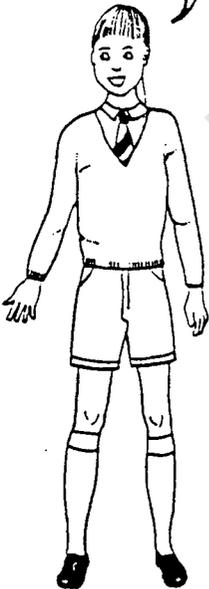
My onderwyser dink  
dat ek soms hard werk




My onderwyser dink  
dat ek hard werk




Ek kan met my  
onderwyser praat



18.

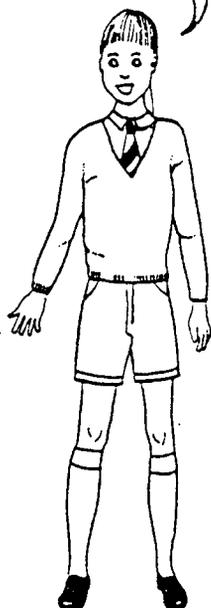
Ek kan soms met  
my onderwyser praat




Ek kan nie met  
my onderwyser praat  
nie



My onderwyser  
hou van my



19.

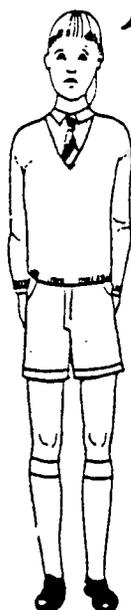
My onderwyser  
hou nie van my nie




My onderwyser  
hou soms van my




My onderwyser  
verstaan my nie

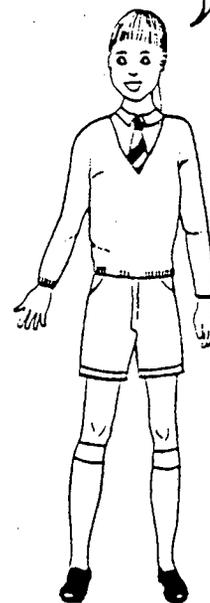


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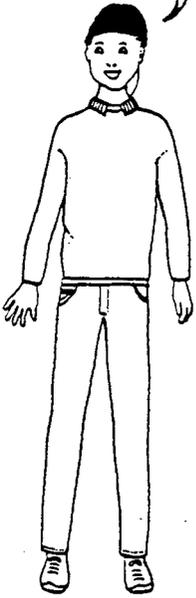
My onderwyser  
verstaan my soms



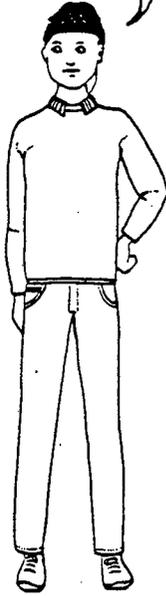

My onderwyser  
verstaan my



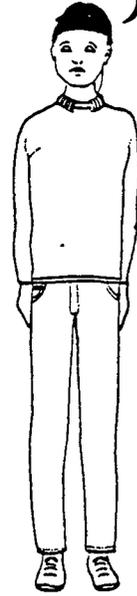
Ek is gelukkig by die huis



Ek is soms gelukkig by die huis

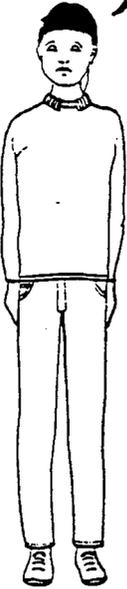


Ek is nie gelukkig by die huis nie

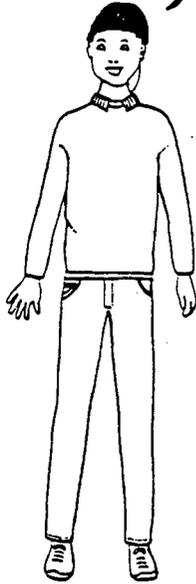


21.

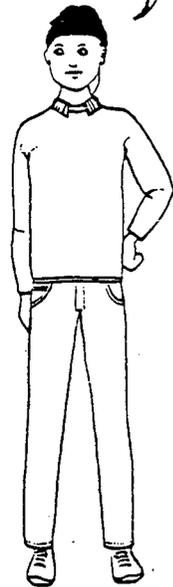
My ouers hou nie daarvan om my by hulle te hê nie



My ouers hou daarvan om my by hulle te hê

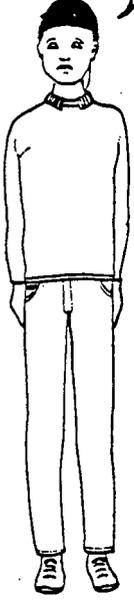


My ouers hou soms daarvan om my by hulle te hê



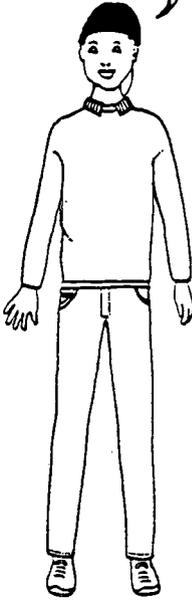
22.

My ouers verstaan my nie

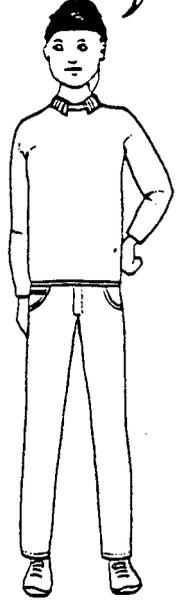


23.

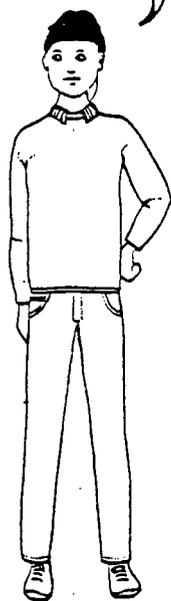
My ouers verstaan my



My ouers verstaan my soms

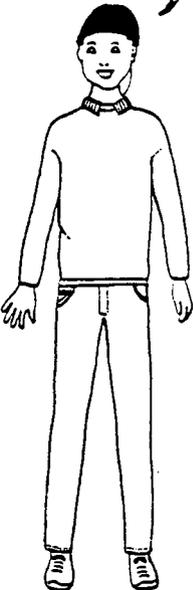


My broers en susters hou soms van my

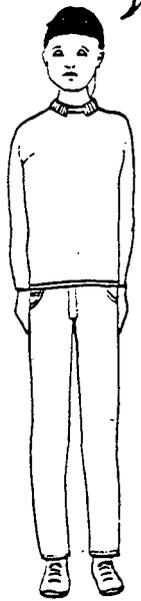


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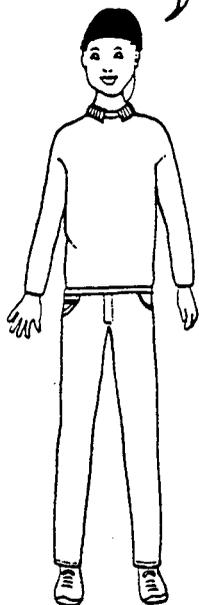
My broers en susters hou van my



My broers en susters hou nie van my nie

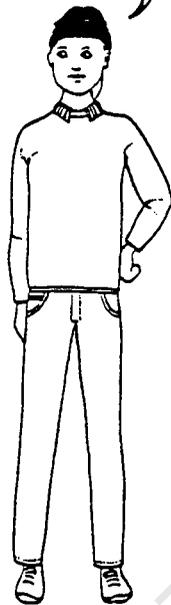


Die meeste seuns en  
dogters hou van my

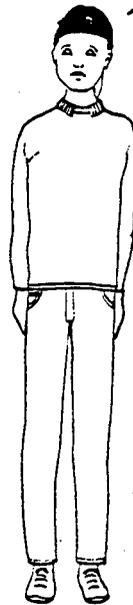


25.

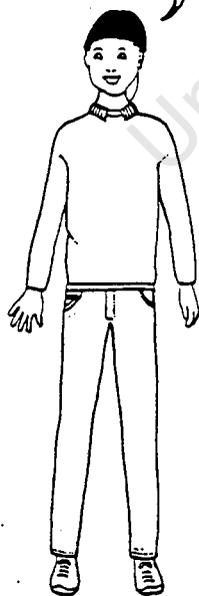
n Paar seuns en  
dogters hou van my




Niemand hou  
van my nie

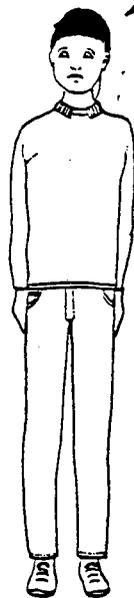



Ek baklei nie met  
ander seuns en  
dogters nie

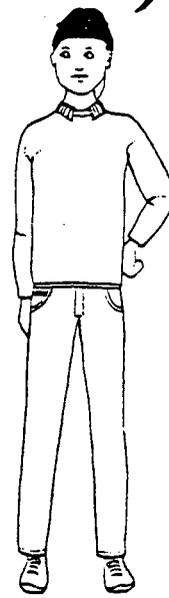


26.

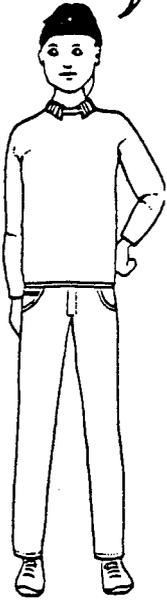
Ek baklei met ander  
seuns en dogters




Ek baklei soms met  
ander seuns en dogters

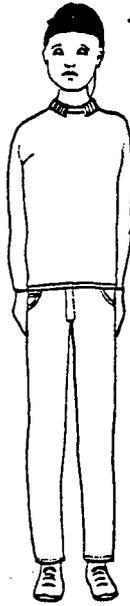


Ek is 'n bietjie soos  
ander seuns en dogters

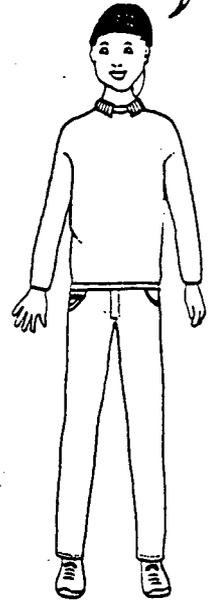


27.

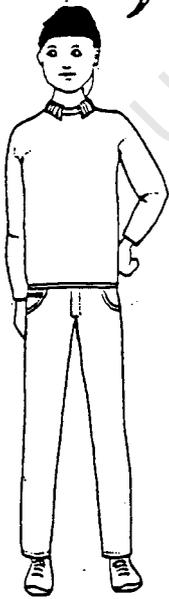
Ek is glad nie  
soos ander seuns  
en dogters nie




Ek is net soos  
ander seuns en dogters

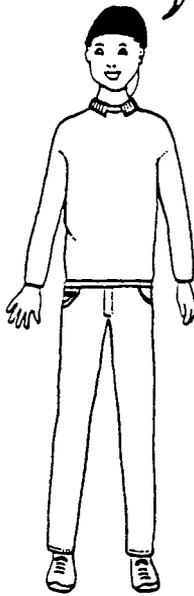



Ek het 'n paar vriende

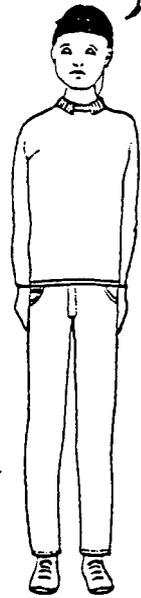


28.

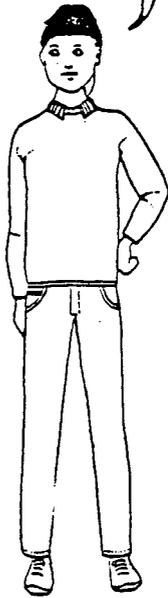
Ek het baie vriende




Ek het geen  
vriende nie

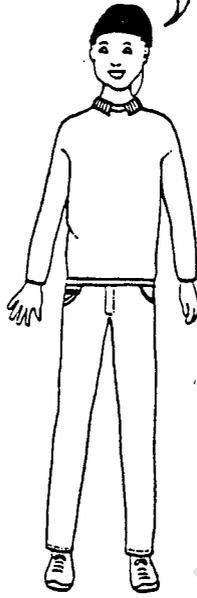


Ek kan met 'n paar  
seuns en dogters praat

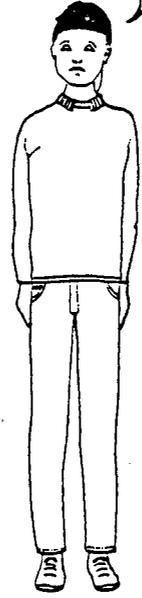


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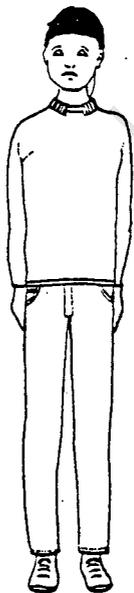
Ek kan met die meeste  
seuns en dogters praat




Ek kan nie met die  
meeste seuns en  
dogters praat nie

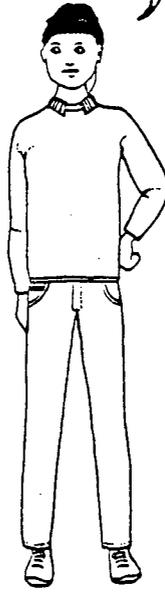



Ek voel baie anders  
as die meeste seuns  
en dogters

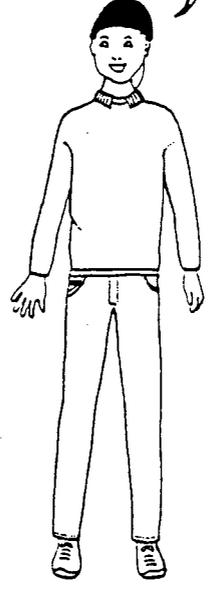


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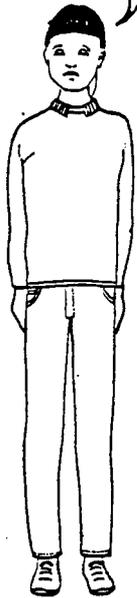
Ek voel anders as die  
meeste seuns en dogters




Ek voel nie anders  
as die meeste seuns  
en dogters nie

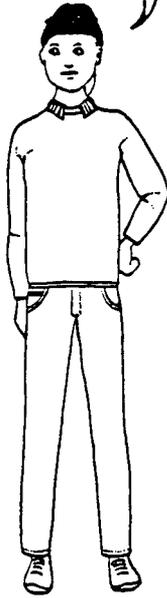


Ek is bang vir horende seuns en dogters

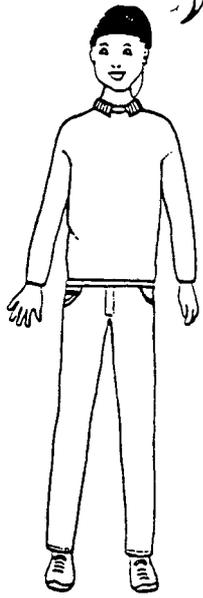


31.

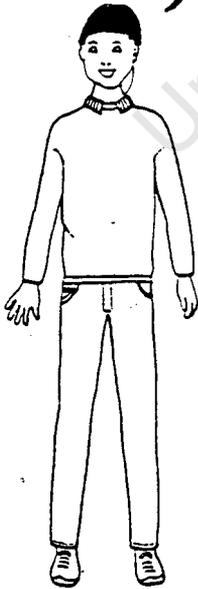
Ek is soms bang vir horende seuns en dogters




Ek is nie bang vir horende seuns en dogters nie

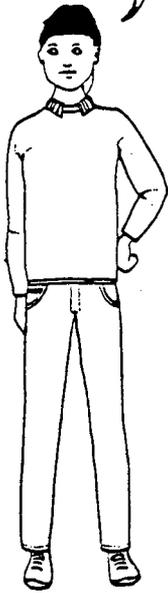



Ek kan alles doen wat horende seuns en dogters doen

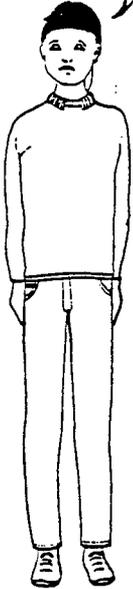


32.

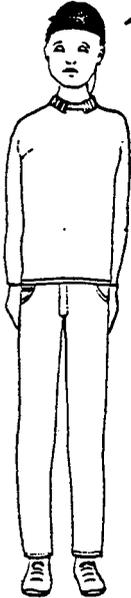
Ek kan party dinge doen wat horende seuns en dogters doen




Ek kan nie die dinge doen wat horende seuns en dogters doen nie



Mense dink ek is snaaks omdat ek nie goed kan hoor nie

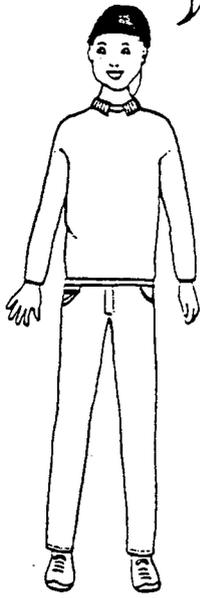


33.

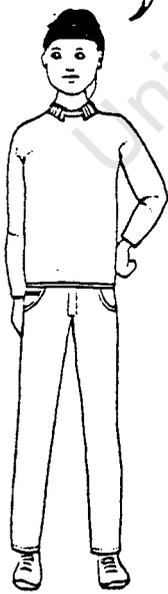
Mense dink soms ek is snaaks omdat ek nie goed kan hoor nie




Mense dink nie ek is snaaks nie

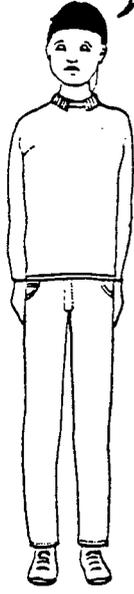



Ek speel soms dieselfde speletjies as horende seuns en dogters

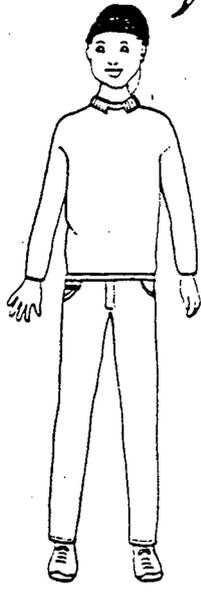


34.

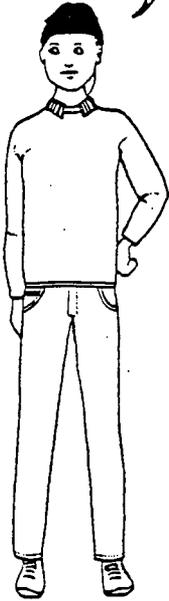
Ek speel nie dieselfde speletjies as horende seuns en dogters nie




Ek speel dieselfde speletjies as horende seuns en dogters

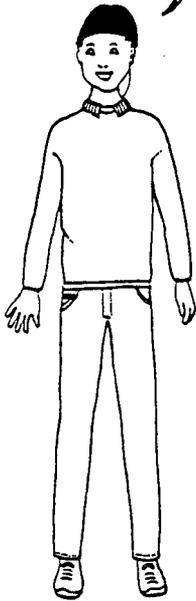


Horende seuns en dogters  
verstaan my soms

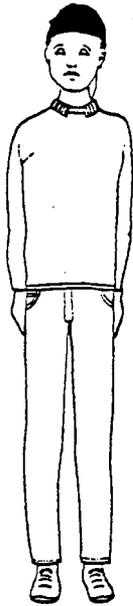



35.

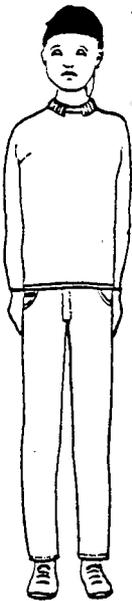
Horende seuns en  
dogters verstaan my




Horende seuns  
en dogters  
verstaan my nie

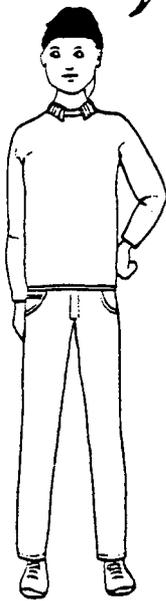



Ek kan nie na  
dieselfde plekke  
toe gaan as  
horende seuns  
en dogters nie

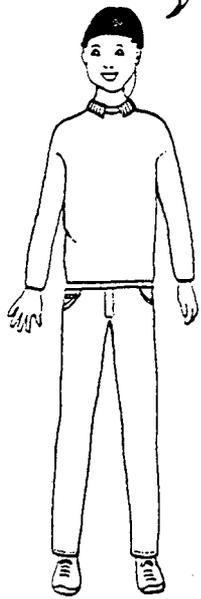



36.

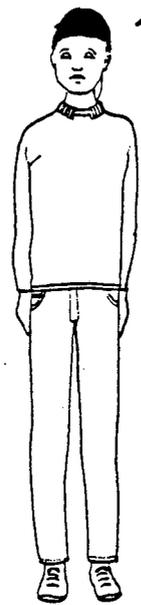
Ek kan na n paar van  
die plekke toe gaan  
as horende seuns  
en dogters




Ek kan na dieselfde  
plekke toe gaan as  
horende seuns en dogters

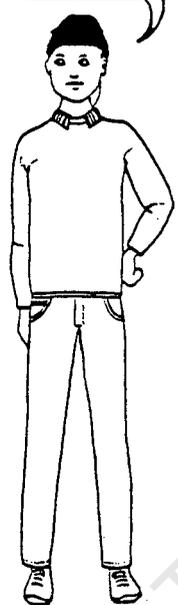


Ek doen nie sport so goed soos horende seuns en dogters nie

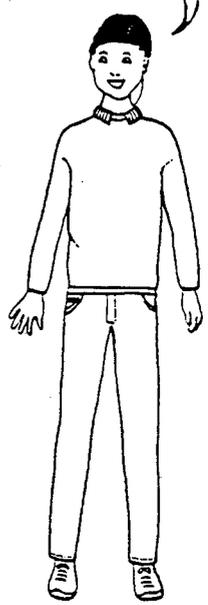


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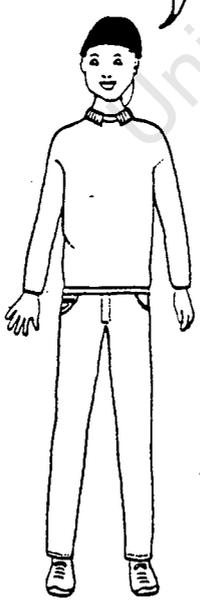
Ek doen soms sport net so goed soos horende seuns en dogters



Ek doen sport net so goed soos horende seuns en dogters

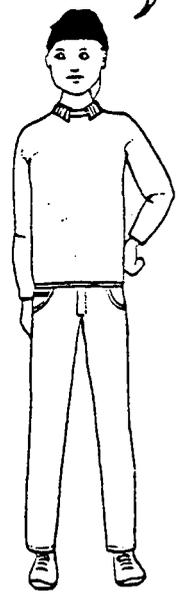


Ek verstaan televisie-programme net so goed soos horende seuns en dogters

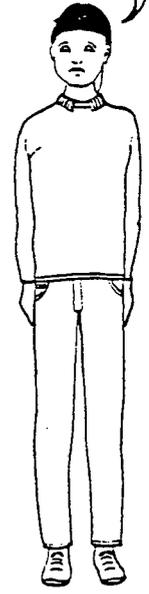


38.

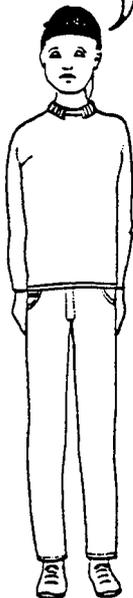
Ek verstaan soms televisie-programme net so goed soos horende seuns en dogters



Ek verstaan nie televisie-programme so goed soos horende seuns en dogters nie

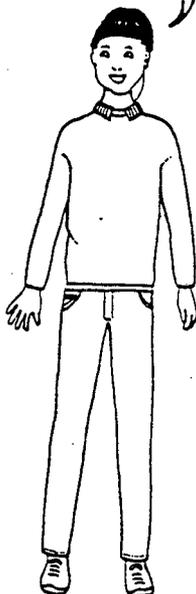


Ek kan nie met  
horende seuns  
en dogters praat nie

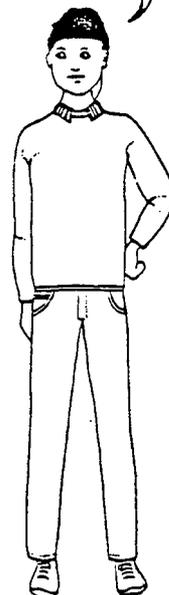


39.

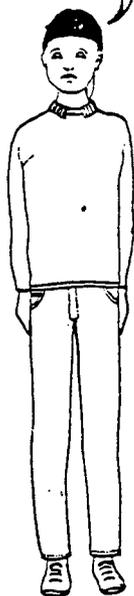
Ek kan met horende  
seuns en dogters praat




Ek kan soms met  
horende seuns en  
dogters praat.

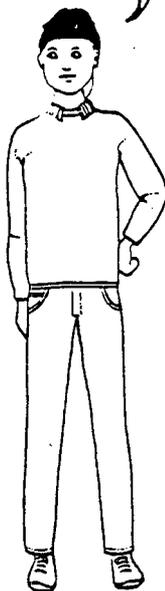



Seuns en dogters dink  
ek is anders omdat  
ek nie kan hoor nie

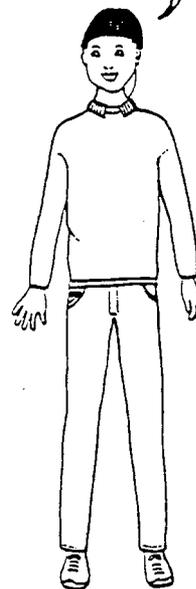


40.

Seuns en dogters dink  
soms ek is anders  
omdat ek nie kan hoor nie




Seuns en dogters  
dink nie ek is  
anders nie



APPENDIX C

QUESTIONNAIRE FOR PROFESSIONALS AND TEACHERS

Please tick the appropriate block to indicate your response.

DETAILS OF STUDENT

Questionnaire No. \_\_\_\_\_ Male  Female   
Age of student \_\_\_\_\_ Years \_\_\_\_\_ Months \_\_\_\_\_  
School \_\_\_\_\_ Std \_\_\_\_\_  
Hostel student  Day student   
Home language \_\_\_\_\_ Medium of instruction \_\_\_\_\_

HEARING LOSS

Degree of loss:  Severe  Moderate  Mild  
\_\_\_\_\_ dB L. Ear \_\_\_\_\_ R. Ear \_\_\_\_\_  
Type of loss \_\_\_\_\_  
Reason for loss \_\_\_\_\_  
Age of onset \_\_\_\_\_

1. How would you rate the student's self concept in the following areas?  
Please choose your rating and indicate your answer in the appropriate blocks below:

<u>Rating:</u> Very positive - A	Negative - C	Erratic - E
Positive - B	Very negative - D	

- (i) personal (how does he see himself?)
- (ii) physical (how does he see himself physically?)
- (iii) academic (how does he see his progress in schoolwork?)
- (iv) social (how does he see himself in relation to others?) - general 
  - teachers
  - family: parents
  - brothers and sisters
  - hearing-impaired peers
  - hearing peers
  - hearing society
- (v) communication (how does he see his communication with others?)

APPENDIX C (cont'd)

2. How would you rate the student's language development and communication?

Very good	Good	Average	Fair	Poor	Very poor
-----------	------	---------	------	------	-----------

3. Communication difficulties with peers

YES	NO
-----	----

with teachers

YES	NO
-----	----

4. Specific personal difficulties

YES	NO
-----	----

Details \_\_\_\_\_

5. How is the student coping with his schoolwork?

Excellent	Above average	Average	Below average	Poor
-----------	---------------	---------	---------------	------

6. Discipline problems at school

YES	NO
-----	----

7. How is the student able to communicate and relate to hearing people?

Good	Fair	Poor	Very poor
------	------	------	-----------

8. Family problems

YES	NO
-----	----

If yes, please explain \_\_\_\_\_

Marital conflict

UNSURE	YES	NO
--------	-----	----

Divorce

YES	NO
-----	----

9. How is the student treated by his parents?

Well cared for	Overprotected	Accepted	Ignored	Rejected
----------------	---------------	----------	---------	----------

Other \_\_\_\_\_

10. When did the student enrol at the school? Std \_\_\_\_\_ Age \_\_\_\_\_

Thank you for your co-operation.

APPENDIX D

SHORTFORM QUESTIONNAIRE FOR PROFESSIONALS AND TEACHERS

Please tick the appropriate block to indicate your response.

DETAILS OF STUDENT

Questionnaire No. \_\_\_\_\_ Male  Female   
Age of student Years \_\_\_\_\_ Months \_\_\_\_\_  
School \_\_\_\_\_ Std \_\_\_\_\_

1. How would you rate the student's self concept in the following areas?  
Please choose your rating and indicate your answer in the appropriate blocks below:

<u>Rating:</u>	Very positive - A	Negative - C	Erratic - E
	Positive - B	Very negative - D	

- (i) personal (how does he see himself?)
- (ii) physical (how does he see himself physically?)
- (iii) academic (how does he see his progress in schoolwork?)
- (iv) social (how does he see himself in relation to others?) - general 
  - teachers
  - family: parents
  - brothers and sisters
  - hearing-impaired peers
  - hearing peers
  - hearing society
- (v) communication (how does he see his communication with others?)

Thank you for your co-operation.



Dependability of teacher's rating of their student's self concept

Please evaluate the dependability of the teacher's rating of their student's self concept in accordance with the following criteria:

1. The teacher's understanding of the notion of the self concept.
2. The professional commitment of the teacher.
3. Student-centredness i.e. the ability of the teacher to understand and empathise with the experience of the students.
4. The period that the teacher has worked with the hearing impaired.
5. The teacher's exposure to the particular students he or she rated i.e. the amount of quality time spent with the students.

University of Cape Town

APPENDIX F

TABLE F (I): Test-retest reliability of the SSHI across School 2

Dimension of self concept addressed by section of SSHI	School 2 (N=83)		
	Combined Divisions	Division A Hard of hearing (N=61)	Division B Deaf (N=22)
	r	r	r
Personal	0.62	0.59	0.71
Physical	0.50	0.46	0.40
Academic	0.63	0.58	0.57
Social	0.67	0.64	0.51 <sup>1</sup>
Sub-section			
Teachers	0.51	0.46	0.22
Family	0.63	0.66	0.42
Peers, hearing peers & society	0.70	0.70	0.05 <sup>2</sup>
Peers, Hearing peers & society	0.49 0.74	0.53 0.73	0.45 <sup>3</sup> 0.68
Full scale: General self concept	0.64	0.58	0.57 <sup>4</sup>
SEmeas for the full scale	8.7		

All r's:  $p < 0.001$ , unless otherwise indicated.

1)  $p = 0.05$

3)  $p = 0.08$

2)  $p = 0.004$

4)  $p = 0.01$

APPENDIX F (cont'd)

TABLE F (2): Test-retest reliability of the SSHI across age group and school for the personal self concept section

Age group	School 1 (N=53)	School 2 (N=83)	School 3 (N=62)
	r	r	r
11 - 13	0.87	0.70 <sup>2</sup>	0.42 <sup>4</sup>
14 - 16	0.66	0.57	0.63
17 - 19	0.48 <sup>1</sup>	0.59 <sup>3</sup>	0.50 <sup>5</sup>
Total	0.71	0.62	0.54

All r's:  $p < 0.001$ , unless otherwise indicated.

1)  $p = 0.59$

2)  $p = 0.003$

3)  $p = 0.002$

4)  $p = 0.04$

5)  $p = 0.05$

TABLE F (3): Test-retest reliability of the SSHI across age group and school for the physical self-concept section

Age group	School 1 (N=53)	School 2 (N=83)	School 3 (N=62)
	r	r	r
11 - 13	-0.13 <sup>1</sup>	0.71 <sup>5</sup>	0.52 <sup>7</sup>
14 - 16	0.31 <sup>2</sup>	0.52	0.77
17 - 19	0.61 <sup>3</sup>	0.20 <sup>6</sup>	0.39 <sup>8</sup>
Total	0.26 <sup>4</sup>	0.50	0.61

All r's:  $p < 0.001$ , unless otherwise stated.

1)  $p = 0.66$

2)  $p = 0.14$

3)  $p = 0.01$

4)  $p = 0.06$

5)  $p = 0.002$

6)  $p = 0.34$

7)  $p = 0.01$

8)  $p = 0.15$

APPENDIX F (cont'd)

TABLE F (4): Test-retest reliability of the SSHI across age group and school for the academic self concept section

Age group	School 1 (N=53)	School 2 (N=83)	School 3 (N=62)
	r	r	r
11 - 13	0.79	0.72	0.42 <sup>1</sup>
14 - 16	0.79	0.47	0.78
17 - 19	0.77	0.78	0.80
Total	0.80	0.63	0.60

All r's:  $p < 0.001$ , unless otherwise indicated.

1)  $p = 0.04$

APPENDIX F (cont'd)

TABLE F (5) Test-retest reliability of the SSHI across age-group and school for the social self concept section

Dimension of social self concept.	Age group	School 1 (N=53) r	School 2 (N=83) r	School 3 (N=62) r
Teachers	11-13	0.63 <sup>4</sup>	0.46 <sup>2</sup>	0.68
	14-16	0.50 <sup>3</sup>	0.58	0.27 <sup>1</sup>
	17-19	0.59 <sup>3</sup>	0.30 <sup>1</sup>	0.45 <sup>2</sup>
	Total	0.55	0.51	0.47
Family	11-13	0.76	0.70 <sup>4</sup>	0.36 <sup>1</sup>
	14-16	0.81	0.58	0.78
	17-19	0.85	0.59 <sup>3</sup>	0.89
	Total	0.82	0.63	0.75
Peers, hearing peers and society	11-13	0.55 <sup>3</sup>	0.87	0.71
	14-16	0.73	0.56	0.37 <sup>1</sup>
	17-19	0.79	0.79	0.79
	Total	0.72	0.70	0.69
Peers	11-13	0.41 <sup>2</sup>	0.68 <sup>4</sup>	0.56 <sup>3</sup>
	14-16	0.55 <sup>3</sup>	0.43 <sup>2</sup>	0.33 <sup>1</sup>
	17-19	0.51 <sup>3</sup>	0.48 <sup>2</sup>	0.67
	Total	0.53	0.49	0.54
Hearing peers/society	11-13	0.55 <sup>3</sup>	0.88	0.69
	14-16	0.72	0.60	0.34 <sup>1</sup>
	17-19	0.81	0.82	0.80
	Total	0.73	0.74	0.69
Full social self concept	11-13	0.60 <sup>4</sup>	0.80	0.69
	14-16	0.72	0.51	0.53 <sup>3</sup>
	17-19	0.82	0.73	0.80
	Total	0.75	0.64	0.68

All r's:  $p < 0.001$  unless otherwise indicated.

	Range of r	Range of p
1.	0.27 < r < 0.37	0.009 < p < 0.88
2.	0.41 < r < 0.48	0.004 < p < 0.14
3.	0.50 < r < 0.59	0.002 < p < 0.04
4.	0.60 < r < 0.70	0.002 < p < 0.02

APPENDIX F (cont'd)

TABLE F (8) Test-retest reliability of the SSHI across language and communication development

Dimension of self concept addressed by section of SSHI	Language and Communication development		
	Poor (N=50)	Average (N=67)	Good (N=75)
	r	r	r
Personal	0.48	0.62	0.70
Physical	0.53	0.44	0.49
Academic	0.62	0.62	0.77
Social	0.56	0.65	0.76
Subsections:			
Teachers	0.36 <sup>1</sup>	0.49	0.55
Family	0.81	0.57	0.76
Peers, hearing peers & society	0.60	0.66	0.77
Peers	0.58	0.27 <sup>2</sup>	0.68
Hearing peers/society	0.55	0.73	0.76
Full scale	0.62	0.67	0.81
SEmeas	9.2	7.0	5.9

All r's:  $p < 0.001$ , unless otherwise indicated.  
 N=192 and not 198 because data on six pupils on the 'Questionnaire for Teachers and Professionals' was incomplete.

- 1)  $p = 0.01$
- 3)  $p = 0.16$

- 2)  $p = 0.03$
- 4)  $p = 0.002$

APPENDIX F (cont'd)

TABLE F (9): Test-retest reliability of the SSHI across sex

Dimension of self concept addressed by section of SSHI	Sex	
	Boys (N=92)	Girls (N=106)
	r	r
Personal	0.57	0.66
Physical	0.37	0.63
Academic	0.64	0.74
Social	0.60	0.76
Subsection:		
Teachers	0.46	0.53
Family	0.65	0.78
Peers, hearing peers & society	0.64	0.75
Peers	0.50	0.54
Hearing peers/society	0.66	0.75
Full scale	0.66	0.78
SEmeas	8.5	6.2

All r's:  $p < 0.001$ .

APPENDIX G

CONTENT VALIDITY RATING FORM

Content Validity of the Self Concept Scale for the Hearing Impaired

Personal Details

Name: \_\_\_\_\_

Present Position: \_\_\_\_\_

Qualifications: \_\_\_\_\_

To what extent do the various sections of the scale reveal and represent aspects of the self concept of the hearing impaired student?

Aspect of the self concept  
the scale intends to measure

Section of the Scale

Personal and physical self concept

Item numbers 1 - 8

Rating of content validity:      1                      2                      3                      4                      5  
poor                      some relevance                      mediocre                      adequate                      good

Academic self concept

Item numbers 9 - 16

Rating of content validity:      1                      2                      3                      4                      5  
poor                      some relevance                      mediocre                      adequate                      good

Social self concept

(a) Significant others : Teachers and Family

Item numbers 17 - 24

Rating of content validity:      1                      2                      3                      4                      5  
poor                      some relevance                      mediocre                      adequate                      good

(b) Peers

Item numbers 25 - 30

Rating of content validity:      1                      2                      3                      4                      5  
poor                      some relevance                      mediocre                      adequate                      good

(c) Hearing Peers and Society

Item numbers 16, 31 - 40

Rating of content validity:	1 poor	2 some relevance	3 mediocre	4 adequate	5 good
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Comments

University of Cape Town

Thank you for your co-operation.

N Oblowitz

Intern Educational Psychologist

APPENDIX H

TABLE H: Correlation of professionals' criterion-rating versus their pupils' responses on the SSHI across age

Dimension of self concept addressed by section of SSHI	AGE GROUP					
	11 - 13yrs (N = 52)		14 - 16 yrs (N = 85)		17 - 19 yrs (N = 55)	
	r*	p	r*	p	r*	p
Personal	-0.02	0.86	0.10	0.33	0.14	0.29
Physical	0.23	0.09	0.27	0.01	0.1	0.95
Academic	0.22	0.10	0.09	0.36	0.34	0.01
Social	0.26	0.05	0.34	<0.001	0.57	0.004
Subsections:						
Teachers	0.38	0.004	0.53	<0.001	0.43	<0.001
Family	0.23	0.08	0.11	0.31	0.39	0.003
Peers	0.13	0.34	0.30	0.004	0.23	0.09
Hearing peers & society	0.10	0.44	0.30	0.01	0.26	0.04
Full Scale	0.25	0.07	0.34	0.001	0.42	0.001

r\* = Concurrent validity coefficients.  
p = level of significance.

APPENDIX I

FACTOR ANALYSIS

RMPD4M FACTOR ANALYSIS OF TEST VARIABLES

SORTED ROTATED FACTOR LOADINGS (PATTERN)

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6	FACTOR 7	FACTOR 8	FACTOR 9	FACTOR 10
ACADEM50	0.725	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ACADEM47	0.652	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PERS42	0.000	0.703	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SOC74	0.000	0.705	0.000	0.344	0.000	0.000	0.000	0.000	0.000	0.000
SOC70	0.000	0.596	0.269	0.000	0.000	0.262	0.295	0.000	0.000	0.000
SOC75	0.000	0.558	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SOC72	0.000	0.253	0.674	0.000	0.000	0.000	0.277	0.000	0.000	0.000
SOC76	0.000	0.000	0.564	0.259	0.000	0.000	0.000	0.000	0.000	0.000
ACADEM49	0.000	0.000	0.504	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ACADEM48	0.000	0.000	0.504	0.000	0.000	0.000	0.000	0.000	0.339	0.000
PERS41	0.219	0.296	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
ACADEM54	0.000	0.000	0.302	0.628	0.000	0.000	0.000	0.000	0.000	0.000
SOC66	0.000	0.000	0.000	0.611	0.000	0.000	0.367	0.000	0.000	0.000
PHYS43	0.000	0.000	0.000	0.542	0.000	0.000	0.000	0.000	0.000	0.000
SOC63	0.000	0.000	0.000	0.000	0.768	0.324	0.000	0.000	0.000	0.000
SOC67	0.000	0.000	0.000	0.000	0.709	0.357	0.000	0.000	0.000	0.000
SOC59	0.000	0.000	0.000	0.000	0.000	0.548	0.000	0.000	0.000	0.000
SOC61	0.260	0.000	0.000	0.000	0.000	0.527	0.000	0.000	0.000	0.000
SOC60	0.290	0.368	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SOC56	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SOC73	0.000	0.000	0.000	0.000	0.000	0.000	0.639	0.000	0.000	0.000
SOC77	0.368	0.370	0.000	0.000	0.000	0.000	0.611	0.000	0.000	0.000
SOC57	0.000	0.000	0.000	0.000	0.000	0.000	0.516	0.000	0.000	0.000
SOC49	0.000	0.000	0.000	0.000	0.307	0.310	0.000	0.000	0.000	0.000
SOC58	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PHYS45	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.697	0.000	0.000
PHYS46	0.266	0.305	0.000	0.000	0.000	0.000	0.000	0.567	0.000	0.000
SOC54	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.712	0.000
PERS39	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.755
PERS40	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SOC68	0.000	0.000	0.272	0.000	0.000	0.000	0.000	0.000	0.000	0.000
SOC65	0.000	0.000	0.000	0.000	0.000	0.436	0.000	0.000	0.000	0.000
SOC71	0.000	0.000	0.315	0.000	0.000	0.000	0.000	0.000	0.466	0.000
ACADEM51	0.478	0.000	0.000	0.000	0.000	0.000	0.323	0.000	0.276	0.000
ACADEM53	0.000	0.000	0.000	0.000	0.324	0.000	0.392	0.000	0.000	0.000
PHYS44	0.385	0.000	0.000	0.000	0.000	0.000	0.261	0.000	0.000	0.000
ACADEM52	0.274	0.000	0.000	0.000	0.360	0.000	0.000	0.000	0.000	0.000
SOC62	0.000	0.324	0.000	0.000	0.000	-0.308	0.000	0.000	0.000	0.000
SOC78	0.000	0.000	0.000	0.000	0.000	0.494	0.000	0.000	0.000	0.000

APPENDIX I (cont'd)

RMDF44: FACTOR ANALYSIS OF TEST VARIABLES

		FACTOR 11									
ACADEM50	51	0.000									
ACADEM47	48	0.000									
PERS42	43	0.000									
SOC74	75	0.000									
SOC70	71	0.000									
SOC75	76	0.000									
SOC72	73	0.000									
SCC76	77	0.000									
ACADEM49	50	0.000									
ACADEM48	49	0.000									
SOC55	56	0.000									
PERS41	42	0.000									
ACADEM54	55	0.000									
SOC66	67	0.000									
PHYS43	44	0.260									
SOC63	64	0.000									
SOC67	68	0.000									
SOC59	60	0.000									
SOC61	62	0.000									
SOC60	61	0.000									
SOC56	57	0.000									
SOC73	74	0.000									
SOC77	78	0.000									
SOC57	58	0.000									
SOC69	70	0.000									
SOC58	59	0.000									
PHYS45	46	0.000									
PHYS46	47	0.000									
SOC64	65	0.000									
PERS39	40	0.000									
PERS40	41	0.000									
SOC68	69	0.622									
SOC65	66	0.579									
SOC71	72	0.000									
ACADEM51	52	0.000									
ACADEM53	54	0.000									
PHYS44	45	0.000									
ACADEM52	53	0.000									
SOC62	63	0.000									
SOC78	79	0.000									
VP		3.256	3.181	2.654	2.465	2.341	2.219	1.970	1.629	1.590	1.530
		1.329									

THE ABOVE FACTOR LOADING MATRIX HAS BEEN REARRANGED SO THAT THE COLUMNS APPEAR IN DECREASING ORDER OF VARIANCE EXPLAINED BY FACTORS. THE ROWS HAVE BEEN REARRANGED SO THAT FOR EACH SUCCESSIVE FACTOR, LOADINGS GREATER THAN .5000 APPEAR FIRST. LOADINGS LESS THAN .2500 HAVE BEEN REPLACED BY ZERO.

RMDP4M FACTOR ANALYSIS OF TEST VARIABLES

ABSOLUTE VALUES OF CORRELATIONS IN SORTED AND SHADED FORM

51	ACADEM50	■
48	ACADEM47	■ ■
43	PERS42	X ■ ■
75	SOC74	· · ■ ■
71	SOC70	· · · ■ ■ ■
76	SOC75	· · · ■ ■ ■ ■
73	SOC72	· · · ■ ■ ■ ■ ■
77	SOC76	· · · ■ ■ ■ ■ ■ ■
50	ACADEM49	YX · · · · X ■ ■
49	ACADEM48	+ · · · X · · X ■ ■ ■
56	SOC55	+ · · · · · · · ■ ■ ■
42	PERS41	+ · · · · · · · ■ ■ ■ ■
55	ACADEM54	XX · · · · X ■ ■ ■ ■
67	SOC66	· · · · ■ ■ ■ · · · X · · · ■ ■
44	FHYS43	+ · · · · · X · · · X ■ ■ ■ ■
64	SOC63	+ · · · · · · · · · · X ■ ■ ■
68	SOC67	+ · · · X · · · · · X · · · · · ■ ■ ■ ■
60	SOC59	· · · · · · · · · · · · · ■ ■
62	SOC61	· · · · · · · · · · · · · · · ■ ■ ■
61	SOC60	X · · · · · · · · · · · · · · ■ ■ ■ ■
57	SOC56	+ · · · · · · · · · · · · · · ■ ■ ■ ■ ■
74	SOC73	· · · ■ ■ ■ · · · · · X · · · · · X ■ ■
78	SOC77	· · · · · X · · · · · · · · · · X ■ ■ ■ ■
58	SOC57	+ X · · · · · · · · · · · · · · ■ ■ ■ ■
70	SOC69	· · · · · X · · · · · · · · · · X ■ ■ ■ ■
59	SOC58	+ · · · · · · · · · · · X · · · · · X · · · X ■ ■ ■ ■
46	PHYS45	· · · · · · · · · · · · · · · ■ ■ ■ ■
47	PHYS46	· · · · · · · · · · · · · · · · ■ ■ ■ ■ ■
65	SOC64	+ · · · · · · · · · · · · · · · ■ ■ ■ ■ ■
40	PERS39	· · · · · · · · · · · · · · · · ■ ■ ■ ■ ■
41	PERS40	· · · · · · · · · · · · · · · · · ■ ■ ■ ■ ■
69	SOC68	· · · · · · · · · · · · · · · · · · ■ ■ ■ ■ ■
66	SOC65	· · · · · · · · · · · · · · · · · · · ■ ■ ■ ■ ■
72	SOC71	· ■ ■ ■ ■ ■
52	ACADEM51	■ ■ ■ · · · · · X · · · · · · · · · · X · · · X · · · ■ ■ ■ ■
54	ACADEM53	■ ■ ■ · · · · · X · · · · · · · · · · X · · · · · ■ ■ ■ ■ ■
45	PHYS44	X · · · · · · · · · · · · · · · · · · · ■ ■ ■ ■ ■
53	ACADEM52	XX · · · · · · · · · · · · · · · · X · · · X · · · X ■ ■ ■ ■
63	SOC62	· ■ ■ ■ ■ ■
79	SOC78	· · · X · X · X · · · · · · · · · · · X · X · X · · · · · ■ ■ ■ ■ ■

THE ABSOLUTE VALUES OF THE MATRIX ENTRIES HAVE BEEN PRINTED ABOVE IN SHADED FORM ACCORDING TO THE FOLLOWING SCHEME

·	LESS THAN OR EQUAL TO	.075
·	.075 TO AND INCLUDING	.149
·	.149 TO AND INCLUDING	.224
·	.224 TO AND INCLUDING	.298
·	.298 TO AND INCLUDING	.373
·	.373 TO AND INCLUDING	.447
·	.447 TO AND INCLUDING	.522
·	GREATER THAN	.522