Doctoral Thesis Abstract

Autostereotypes and Heterostereotypes
In Sensory Impaired Students

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Introduction .............................................................................................................. 4

Theoretical Section

Chapter I. Theoretical Considerations on Students with Sensory Deficiency ............... 8
  1. Definition, Terminology, Classification And Etiology .............................................. 8
  1.1. Auditive Deficiency ......................................................................................... 9
  1.1.2 Visual Deficiency ....................................................................................... 15
  1.2. Characteristics of the Psychical and Emotional Life of Students With Sensory
      Deficiency ........................................................................................................ 20
  1.2.1. Characteristics of the Psychical and Emotional Life of Students With Auditive
         Deficiency ........................................................................................................ 20
  1.2.2. Characteristics of the Psychical and Emotional Life of Students With Visual
         Deficiency ........................................................................................................ 31
  1.3. Particularities of Identity Development In Students With Sensory Deficiency ........ 37

Chapter II. The Concept of Self in Students with Sensory Deficiency ......................... 43
  2.1. Self Image In Students with Sensory Deficiency .............................................. 43
  2.2. Self Perception ............................................................................................... 47
  2.3. Self-Esteem ..................................................................................................... 51
      2.3.1. Definition, characteristics, theories .......................................................... 51
      2.3.2. The Sources of Self-Esteem In Students With Sensory Deficiency .......... 56

Chapter III. Social Perception and Attitude towards People with Deficiencies .......... 68
  3.1. Social Perception towards People with Deficiencies ......................................... 68
  3.2. Attitude towards People with Sensory Deficiency ............................................ 75

Chapter IV. Conceptual Models of Stereotypes and the Process of Stereotyping ...... 80
  4.1. Definition, Theoretical Perspectives ................................................................. 80
  4.2. Origin, Nature and Influence of Stereotypes .................................................... 84
  4.3. Stereotypes as Instruments of Interpretation and Reasoning ......................... 88

Research Section

Chapter V. Evaluation Methods of Stereotypes .......................................................... 93
  5.1. Psychosocial Implications of Stereotypes ......................................................... 93
  5.2. Measuring Methods of Stereotypes ................................................................. 112
      5.2.1. Direct Measuring Methods of Stereotypes ................................................. 112
      5.2.2. Indirect Measuring Methods of Stereotypes ............................................. 115
5.3. Study 1. Autostereotypes and Heterostereotypes in Students with Visual and Auditive Deficiency .................................................................118

5.3.1. Research Methodology ................................................................118

5.3.1.1. Objectives and Hypotheses of the Research ...............................118

5.3.1.2. Participants ..............................................................................119

5.3.1.3. Instrument ..............................................................................119

5.3.1.4. Procedure ..............................................................................120

5.3.2. Data Analysis and Interpretation ..................................................121

Chapter VI. The Concept of Self in Students with Sensory Deficiency ..........135

6.1. Stereotypes and the Self-Concept – Complex Relations .........................135

6.2. Study 2. The Self-Concept in Students with Sensory Deficiency ............142

6.2.1. Research Methodology ................................................................142

6.2.1.1. Objectives and Hypotheses of the Research ...............................142

6.2.1.2. Participants ..............................................................................143

6.2.1.3. Instrument ..............................................................................144

6.2.1.4. Procedure ..............................................................................146

6.2.2. Data Analysis and Interpretation ..................................................147

6.2.2.1. Data Analysis ..........................................................................147

Verification of Tennessee Self Concept Scale Accuracy .........................147

Verification of Research Null Hypotheses .............................................148

Structural Analysis (identity – contentment – behaviour) of the Self (physical, moral, personal, social, of the family) and of the Self Concept ..................156

Results Analysis in TSCS According to Age ...........................................168

Results Analysis in TSCS According to Gender ....................................172

6.2.2.2. Results Interpretation ...............................................................178

Chapter VII. Conclusions, Value, Limits and Research Perspectives ..........183

Bibliography ......................................................................................188

Appendices .......................................................................................206

Appendix 1. Questionnaire of Psychomoral Traits ....................................207

Appendix 2. The Tennessee Scale for Measuring the Self Concept .............209

Keywords: Sensory deficiency, autostereotypes, heterostereotypes, students, self-concept, self-esteem.

This doctoral thesis comprises 36 tables, 6 charts and 2 diagrams.
The topic of the thesis can be approached from the point of view of the following social disciplines: social psychology, general psychology, cognitive psychology, psychopedagogy, sociology etc.

The evidence of deficiency affects an individual not only in a personal sense, but also from the point of view of his relations with the others around him, affecting the representations on the social group level and increasing the differences between “they” and “we”. People with deficiencies/disabilities are labelled, categorized. This means not only designating the type of deficiency that person has, but also assigning a set of characteristics which are usually referred to the group that person belongs to (stereotyping).

Therefore, it becomes interesting to observe the way in which members of different social groups are representing their own group (autostereotype), or other groups (heterostereotype).

Hence, this doctoral thesis is structured around these concepts.

The content of this thesis is organized in two sections. The theoretical section comprises the underlying of the research (the first four chapters). It refers to the notion of students with sensory deficiency (hearing deficiency and visual deficiency), the self-concept in people with deficiencies, social representations and attitude towards them and it also synthesizes the main theories and conceptual models of stereotypes.

Starting from specialized studies, this work wants to identify stereotypes in students with sensory deficiency, to underline their content and relations, to determine the structure of the self-concept in students with hearing and visual deficiencies, to point the existence or negation of differences of the self-concept between the two categories and to establish the level of self-esteem of the above mentioned categories.

Therefore, the research section comprises two studies. The first study includes the comparative analysis of autostereotypes and heterostereotypes in students with hearing and visual deficiencies, and the second study implicates the determination of self-concept structure, implicitly the identification of the self-esteem level in students with deficiencies. Each study is preceded by an introductory theoretical part, in which I synthesized the psychosocial implications of stereotypes, the evaluation methods and also the complex relations which could arise between stereotypes and the self-concept.

As for the methodological part, and also the data description and analysis, I combined the quantitative and qualitative approach, taking into consideration the nature of the social subject I deal with and the instruments I use.
The writing of this doctoral thesis had several stages: a. Determining the research topic based on the specialized literature; b. Formulating the research objectives and hypotheses; c. Describing the participants, the instruments used and the working procedure; d. Applying the research instruments to the selected subjects; e. Quantitative and qualitative analysis of the data; f. Formulating the conclusions, the theoretical-applicative value of the study, the limits of the research and possible new directions of research.

Chapter I. Theoretical Considerations on Students with Sensory Deficiency contains information regarding the terminology used in psychopedagogy literature for the subject of people with sensory deficiency (hearing deficiency and visual deficiency), definitions of these types of deficiencies, classification according to different criteria and the main causes which can determine their occurrence.

Analyzing the specific of the psychical and emotional processes in students with sensory deficiency, we can distinguish a series of characteristics, particularities and major implications regarding the relations between these students and the surrounding world, the attitude towards themselves and also the development of their identity.

In children with disabilities, the insufficient cognitive, motivational, emotional and volitional development has negative effects in the development of their identity. The structures of the psychical system (including identity) do not develop normally and do not structure as standard models for adapting and elaborating superior behaviour.

Chapter II. The Concept of Self in Students with Sensory Deficiency describes the formation and development of this concept, starting from the idea that self-perception, self-image and self-esteem are the component parts of the self-concept, which can be regarded as an organized system of self-structures.

There are numerous definitions of the self-concept, but all of them have a common point: the perception of one’s own characteristics, the physical, psychical and personality traits, their evaluation and the type of reference to the social groups from that individual’s surroundings.

In people with deficiencies, some elements from their personality – self-image and self-esteem – gain a certain importance and influence the relations with others.

Self-image means being aware of “who I am” and “what I am capable of”. Self-image influences both the world around and personal behaviours.

Self-esteem is in strong relation with self-image. Self-esteem refers to the way in which we evaluate ourselves, how “good” we consider ourselves as compared to our own expectations or to others.
The social relations are also a condition of self-esteem. People tend to selectively perceive and interpret information, the positive and negative feedback of a certain environment related to a high or low level of self-esteem. The ones with a low self-esteem perceive and interpret much more often the negative feedback, as related to their level of self-esteem.

Chapter III. Social Perception and Attitude towards People with Deficiencies describes the way in which stereotype representations allow us to relate a certain psychomoral and behavioural profile to the members of a specific group, or help us know whom we should value or disdain, and all these things without ever having verified the weight of these clichés (Sillamy, 2000). Moreover, we structure our social identity and the characteristics we have in common with others based on (auto)assigned traits (Lungu, 2004).

Some authors consider that the statute of people with deficiencies “derives from the attitude of the society towards deficiency and deficient people, because this attitude creates a certain social image of man, an image invested with full value within the society” (C. Enăchescu, 1996 b, p.188). Deficiency is as well expressed through certain attitudes and the compensation also involves the existence of particular attitudes.

Chapter IV. Conceptual Models of Stereotypes and of the Process of Stereotyping synthesizes the main approaches of stereotypes from different point of views.

The specialized literature has shown special interest in studying stereotypes from different perspectives, which can be grouped in two main categories: approaches related to the theory of social identity, mostly declared by the European research, and the social knowledge perspectives, claimed by the American research. Instead, there is a relatively small number of works in which stereotypes have been analysed in people with deficiencies, especially sensory deficiencies.

Taking into consideration the historical evolution of stereotypes, there are three approaches to be mentioned: the psychodynamic approach – the conflict theory based on individual processing – deals with prejudice more than with stereotypes; the socio-cultural approach analyses terms like acquisitions and stereotypes transfer, claiming that these stereotypes influence the behaviour and the social conflict approach, which emphasizes on social players in contrast with the individual.

Stereotypes are defined either as a set of convictions (Leyens, 1994) or beliefs (Drozda, Senkowski, 1999), or as a system of perceptions, opinions and expectations (Băicianu, 2004), as a perception of equivalence (Doise, 1999) or positive/negative reasoning (Gavreliuc, 2006).
In any of these cases, the authors mentioned above agree that stereotypes are shared by a group and concern the members of another social group without taking into consideration the individual differences inside the group (Schaefer, 1989, apud Ivan, 2006 p.185). At the content level, stereotypes simultaneously integrate personal characteristics (identity) and behavior tendencies.

The modern research abandons the idea that stereotypes are simplifying errors, rigid perceptual schemes (Stănculescu, 2000, p.78). Allport (1954) talks about the germ of truth referring to the content of certain stereotypes.

In my research work, I chose the socio-cultural perspective.

The first study, The Comparative Analysis of Autostereotypes and Heterostereotypes in Students with Hearing and Visual Deficiencies, is preceded by an introductory part in which I describe the psychosocial implications and the main evaluation methods of stereotypes. There are a series of factors which lead to the appearance of stereotypes and once they appear, various processes contribute to their continuous existence. Usually, the same processes which contribute to their appearance also contribute to their continuance.

**Research Methodology**

**Objectives and Hypotheses of the Research**

The students with visual deficiencies and those with hearing deficiencies are part of two socially distinct groups. The objectives of this study are:

- The specification of stereotypes in students with this type of deficiency;
- The identification of the content of autostereotypes and heterostereotypes in students with visual deficiencies;
- The identification of the content of autostereotypes and heterostereotypes in students with hearing deficiencies;
- The comparative analysis of stereotypes in students with visual and hearing deficiencies, and also the content analysis of the autostereotypes and heterostereotypes in both categories.

Because of the different type of sensory deficiency in this category of students, which supposes different ways of adjustment and relation with the environment, I assume that the content of autostereotypes and heterostereotypes is also different in the categories mentioned above.

Therefore, I begin this study from the following hypotheses:
1. There is a content difference between autostereotypes in students with hearing deficiencies and autostereotypes in those with visual deficiencies.

2. There is a content difference between the characteristics the students with hearing deficiencies set out for those with visual deficiencies (heterostereotypes) and the characteristics the students with visual deficiencies set out for those with hearing deficiencies.

3. Inside each group of children with sensory deficiency, there is qualitative difference between autostereotypes and heterostereotypes, in the sense of a positive content of autostereotypes and a negative content of heterostereotypes.

Participants

For this study, the participants were students from the High School for Hearing Impaired Children and also from the High School for Visually Impaired in Cluj-Napoca.

<table>
<thead>
<tr>
<th>Deficiency Type</th>
<th>Total Number</th>
<th>Age</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hearing Impairment</td>
<td>72</td>
<td>13-20</td>
<td>39 girls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(16,6)</td>
<td>33 boys</td>
</tr>
<tr>
<td>Visual Impairment</td>
<td>65</td>
<td>13-22</td>
<td>33 girls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(18,11)</td>
<td>32 boys</td>
</tr>
</tbody>
</table>

Instruments of Research

The data based on which I identified and described the autostereotypes and heterostereotypes in visually impaired and hearing impaired students were collected through a questionnaire of psychomoral traits specially made for this study. The questionnaire is composed of 36 psychomoral traits, with an equal number of positive (quality) and negative (flaw) traits, randomly distributed (Appendix 1). The students had to check five traits they considered as being representative for the visually impaired students group, respectively for the hearing impaired students group.

Procedure

*Items establishing stage.* Both groups were given the task to enumerate five representative characteristics for the group they are part of.

*Items selection stage.* All the traits obtained from the participants of this study were gathered in one single list and analysed from the content point of view. From the initial list, I excluded the synonyms and the traits that were specific only for one category of deficient
people and nonspecific for the other (eg. “developed hearing”). I retained all the traits with the same degree of comprehensibility and abstractiveness, in other words with approximately the same frequency of usage in Romanian. In this sense, I worked with the Romanian Explanatory Dictionary (1996). At the end of the study, I kept the first 36 psychomoral traits enumerated by the students, in a frequency descendent order, taking into consideration an equal number of positive and negative traits. Therefore, I obtained a questionnaire of 36 psychomoral traits, of which 18 are positive and 18 are negative.

*Application of the psychomoral traits questionnaire.* The psychomoral traits questionnaire has been identically applied to students with sensory deficiency. In order to identify both autostereotypes and heterostereotypes, the students had the task to check five traits they considered representative, first for the group they are part of, and second for the other group. In the case of the children with ablepsia, the questionnaire has been read and filled individually for each student by the examiner.

**Data Analysis and Interpretation**

In order to illustrate the autostereotype in hearing impaired and visually impaired students, I calculated the answers frequency for each of the 36 psychomoral traits, 18 positive and 18 negative, and I included them in the Psychomoral Traits Questionnaire.

Table V.1. Autostereotype in visually impaired students.

<table>
<thead>
<tr>
<th>Visually impaired students are:</th>
<th>Frequency</th>
<th>Visually impaired students are:</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambitious</td>
<td>36</td>
<td>Unadapted</td>
<td>14</td>
</tr>
<tr>
<td>Smart</td>
<td>35</td>
<td>Patient</td>
<td>14</td>
</tr>
<tr>
<td>Attentive</td>
<td>33</td>
<td>Hard working</td>
<td>14</td>
</tr>
<tr>
<td>Calm</td>
<td>31</td>
<td>Complaisant</td>
<td>13</td>
</tr>
<tr>
<td>Brave</td>
<td>29</td>
<td>Unsociable</td>
<td>13</td>
</tr>
<tr>
<td>Creative</td>
<td>25</td>
<td>Inferior</td>
<td>13</td>
</tr>
<tr>
<td>Shy</td>
<td>21</td>
<td>Cautious</td>
<td>12</td>
</tr>
<tr>
<td>Dependent</td>
<td>21</td>
<td>Confident</td>
<td>11</td>
</tr>
<tr>
<td>Polite</td>
<td>20</td>
<td>Deficient</td>
<td>11</td>
</tr>
<tr>
<td>Faithful</td>
<td>20</td>
<td>Beautiful</td>
<td>8</td>
</tr>
<tr>
<td>Neat</td>
<td>20</td>
<td>Underdeveloped</td>
<td>7</td>
</tr>
<tr>
<td>Friendly</td>
<td>20</td>
<td>Aggressive</td>
<td>7</td>
</tr>
<tr>
<td>Solitary</td>
<td>18</td>
<td>Strong</td>
<td>7</td>
</tr>
<tr>
<td>Ill</td>
<td>17</td>
<td>Incapable</td>
<td>7</td>
</tr>
<tr>
<td>Worthy</td>
<td>16</td>
<td>Liars</td>
<td>5</td>
</tr>
<tr>
<td>Sad</td>
<td>16</td>
<td>Vindictive</td>
<td>0</td>
</tr>
<tr>
<td>Integrated</td>
<td>15</td>
<td>Talebearers</td>
<td>0</td>
</tr>
<tr>
<td>Restless</td>
<td>15</td>
<td>Immature</td>
<td>0</td>
</tr>
</tbody>
</table>
In a frequency descendent order of the answers, the **autostereotype** in visually impaired students comprised the following psychomoral traits: the visually impaired students are *ambitious, smart, attentive, calm and brave*. At the end of the list, I also concluded that this type of students are not vindictive, talebearers or immature. The **autostereotype** in hearing impaired students contains the following psychomoral traits: the hearing impaired students are *friendly, hardworking, smart, restless and brave*. At the end of the list, I also concluded that this type of students are not worthy, inferior or incapable.

We observe a few important facts about autostereotype in sensory deficient students, and that is in both cases the students described themselves positively, only at the end of the list we notice several negative traits. Moreover, both types of students described themselves as being *smart* and *brave*. And also, the visually impaired students see themselves as *ambitious, attentive and calm*, and the hearing impaired students as *friendly, hardworking*, but *restless*.

The structure of autostereotypes from the point of view of positive and negative traits is comparatively described for the two groups of participants in the chart V.1.
the autostereotype in students from the High School for Visually Impaired is entirely composed of positive characteristics (frequency 164).

- the autostereotype in hearing impaired students is composed of positive traits (frequency 140) and negative traits (restless – 35).

An interesting fact is that the traits the sensory deficient students selected to describe themselves are to a great extent coincident with the characteristics marked by Robu, V. (2008) and Chelcea, S., Moțescu, M. (1996, 1998).

Among the positive traits described during the research of Chelcea and Moțescu (1996, 1998) on a few groups of students, we observe courage, hardwork, smartness, friendship. The study performed by Viorel Robu (2008) on students from Bârlad illustrated a few positive psycho-moral traits as ambition, courage, and smartness.

All the data leads us to the conclusion that the results of our study are in concordance with the results obtained by other Romanian researchers. However, these data can also underline the fact that autostereotypes in sensory deficient students do have to a great extent the same component structure as the autostereotypes in other groups of students without any deficiencies throughout Romania. It is, without any doubt, an aspect of normality in sensory deficient students’ autoperception.

In order to describe heterostereotypes, the way in which one group of deficient students see the other group with deficiencies, I calculated the answers frequency for each of the 36 psychomoral traits, 18 positive and 18 negative, and I included them in the Psychomoral Traits Questionnaire. The obtained data were included in a frequency descendent order in Table V.7. and Table V.8.
Table V.7. Heterostereotype in visually impaired students (the way in which visually impaired students perceive hearing impaired students).

<table>
<thead>
<tr>
<th>Hearing impaired students are:</th>
<th>Frequency</th>
<th>Hearing impaired students are:</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Underdeveloped</td>
<td>32</td>
<td>Unsociable</td>
<td>9</td>
</tr>
<tr>
<td>Restless</td>
<td>30</td>
<td>Calm</td>
<td>9</td>
</tr>
<tr>
<td>Aggressive</td>
<td>25</td>
<td>Neat</td>
<td>9</td>
</tr>
<tr>
<td>Solitary</td>
<td>21</td>
<td>Worthy</td>
<td>8</td>
</tr>
<tr>
<td>Inattentive</td>
<td>21</td>
<td>Confident</td>
<td>7</td>
</tr>
<tr>
<td>Disobedient</td>
<td>17</td>
<td>Integrated</td>
<td>6</td>
</tr>
<tr>
<td>Sad</td>
<td>16</td>
<td>Vindictive</td>
<td>5</td>
</tr>
<tr>
<td>Creative</td>
<td>15</td>
<td>Inferior</td>
<td>4</td>
</tr>
<tr>
<td>Unadapted</td>
<td>15</td>
<td>Strong</td>
<td>3</td>
</tr>
<tr>
<td>Brave</td>
<td>12</td>
<td>Patient</td>
<td>2</td>
</tr>
<tr>
<td>Dependent</td>
<td>12</td>
<td>Ill</td>
<td>1</td>
</tr>
<tr>
<td>Beautiful</td>
<td>12</td>
<td>Immature</td>
<td>1</td>
</tr>
<tr>
<td>Hardworking</td>
<td>11</td>
<td>Liars</td>
<td>1</td>
</tr>
<tr>
<td>Strivers</td>
<td>10</td>
<td>Polite</td>
<td>1</td>
</tr>
<tr>
<td>Friendly</td>
<td>10</td>
<td>Complaisant</td>
<td>0</td>
</tr>
<tr>
<td>Faithful</td>
<td>10</td>
<td>Smart</td>
<td>0</td>
</tr>
<tr>
<td>Deficient</td>
<td>9</td>
<td>Incapable</td>
<td>0</td>
</tr>
</tbody>
</table>

Table V.8. Heterostereotype in hearing impaired students (the way in which hearing impaired students perceive visually impaired students).

<table>
<thead>
<tr>
<th>Visually impaired students are:</th>
<th>Frequency</th>
<th>Visually impaired students are:</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calm</td>
<td>33</td>
<td>Creative</td>
<td>5</td>
</tr>
<tr>
<td>Smart</td>
<td>26</td>
<td>Strong</td>
<td>4</td>
</tr>
<tr>
<td>Deficient</td>
<td>23</td>
<td>Liars</td>
<td>3</td>
</tr>
<tr>
<td>Sad</td>
<td>21</td>
<td>Attentive</td>
<td>3</td>
</tr>
<tr>
<td>Ill</td>
<td>19</td>
<td>Vindictive</td>
<td>2</td>
</tr>
<tr>
<td>Neat</td>
<td>16</td>
<td>Cautious</td>
<td>2</td>
</tr>
<tr>
<td>Hardworking</td>
<td>15</td>
<td>Integrated</td>
<td>1</td>
</tr>
<tr>
<td>Patient</td>
<td>13</td>
<td>Inferior</td>
<td>1</td>
</tr>
<tr>
<td>Shy</td>
<td>12</td>
<td>Talebearers</td>
<td>1</td>
</tr>
<tr>
<td>Friendly</td>
<td>12</td>
<td>Underdeveloped</td>
<td>0</td>
</tr>
<tr>
<td>Dependent</td>
<td>11</td>
<td>Aggressive</td>
<td>0</td>
</tr>
<tr>
<td>Brave</td>
<td>11</td>
<td>Worthy</td>
<td>0</td>
</tr>
<tr>
<td>Ambitious</td>
<td>9</td>
<td>Unadapted</td>
<td>0</td>
</tr>
<tr>
<td>Trait</td>
<td>Visually Impaired</td>
<td>Hearing Impaired</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>Polite</td>
<td>9</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Incapable</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Restless</td>
<td>8</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Disobedient</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Faithful</td>
<td>8</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Immature</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Unsociable</td>
<td>7</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Complaisant</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Solitary</td>
<td>6</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Inattentive</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

Regarding **heterostereotypes**, we observe that visually impaired students perceive those with hearing deficiencies as being *underdeveloped, restless, aggressive, solitary, and inattentive*. While hearing impaired students perceive those with visual deficiencies as being *calm, smart, deficient, sad and ill*.

The structure of heterostereotypes from the point of view of positive and negative traits is comparatively described for the two groups of participants in the chart V.4.

- heterostereotype in visually impaired students contains only negative characteristics (chart V.2.).
- heterostereotype in hearing impaired students contains both positive and negative traits (59 vs. 63).

We can observe that generally there is a major difference between autostereotypes and heterostereotypes from the point of view of psychomoral traits valence. Namely, the psychomoral traits of autostereotypes in both categories of students are prevalently positive, while the psychomoral traits of heterostereotypes are predominantly negative (charts V.5. and V.6.).
Diagrama V.5. Autostereotipul si heterostereotipul la elevii cu deficiențe de vedere

Diagrama V.6. Autostereotipul si heterostereotipul la elevii cu deficiențe de auz

Explanations:
- the tendency of the subjects to put themselves in a favourable light
- they come from the same institutionalized environment, with limited socializing possibilities, being hold up by those around them who sustain this feeling.
- being part of a group, which could strengthen the positive aspects of social identity.
- to delimit positive facts and results is much more specific to the in-group than for the out-group (Pettigrew, 1979, apud Hewstone, 1990).
- according to theories which consider stereotype formation from a motivational point of view (the theory of social identity and the theory of social system justification), it is very likely to develop positive stereotypes for the group one is part of and identifies with (in-group) and negative stereotypes for other groups (out-group), in order for one to maintain a positive and
constructive self-esteem. For a negative incident, some people blame themselves, while others refer to an outside target in order to maintain their self-esteem intact.

In conclusion, my study confirms all three hypotheses specified at the beginning of my research, namely:

1) there is a content difference between autostereotypes in students with hearing deficiencies and autostereotypes in those with visual deficiencies.

2) there is a content difference between the characteristics the students with hearing deficiencies set out for those with visual deficiencies (heterostereotypes) and the characteristics the students with visual deficiencies set out for those with hearing deficiencies.

3) inside each group of children with sensory deficiency, there is qualitative difference between autostereotypes and heterostereotypes, in the sense of a positive content of autostereotypes and a negative content of heterostereotypes.

Students with deficiencies form opinions about their personal traits firstly by interacting with the social environment. Personal traits are the characteristics and qualities which they consider as being true for themselves. The amount of personal traits represent one's self-perception. These personal traits can be realistic or unrealistic, coherent or vague, distorted or fragmented.

As any other people, those with certain deficiencies also analyze themselves, see themselves in a specific way and create a self-image. They have the tendency to positively self-evaluate and reject negative traits, in order to create, develop and maintain a positive self-conception. The fact that there are similar characteristics among deficient people and normal people contributes to estimating the value of this type of students and diminishing discrimination and marginalization, which leads to a low self-esteem (stigmatization is often connected to institutionalization, which enhances stereotypes and leads to deficient people being perceived as incapable or dependent on others).

Study 2. The Self Concept in Students with Sensory Deficiency

Research Methodology

Objectives and Hypotheses of the Research

Starting from the presumption that the existence of a deficiency can generate modification of the self-concept, with an implicit influence on the self-esteem level, this study proposes:

- to determine the existence/nonexistence of self-concept differences between sensory deficient students and non-deficient students;
to determine the structure of the self-concept in sensory deficient students;
➢ to identify the level of self-esteem in sensory deficient students and in non-deficient students;

The specific hypothesis of this study is that there are differences of the self-concept between sensory deficient people and non-deficient people, the self-esteem of sensory deficient students being comparatively lower than the self-esteem of students with no sensory deficiencies.

From this specific hypothesis, I formulated the following null hypotheses:

Null hypothesis no. 1: There is no significant difference between the self-concept total values in TSCS in sensory deficient students and non-deficient students.

Null hypothesis no. 2: There is no significant difference between the total values from the physical self subscale in sensory deficient students and non-deficient students.

Null hypothesis no. 3: There is no significant difference between the total values from the moral self subscale in sensory deficient students and non-deficient students.

Null hypothesis no. 4: There is no significant difference between the total values from the personal self subscale in sensory deficient students and non-deficient students.

Null hypothesis no. 5: There is no significant difference between the total values from the familial self subscale in sensory deficient students and non-deficient students.

Null hypothesis no. 6: There is no significant difference between the total values from the social self subscale in sensory deficient students and non-deficient students.

Null hypothesis no. 7: There is no significant difference between the total values from the self identity subscale in sensory deficient students and non-deficient students.

Null hypothesis no. 8: There is no significant difference between the total values from the self-acceptance subscale in sensory deficient students and non-deficient students.

Null hypothesis no. 9: There is no significant difference between the total values from the behaviour subscale in sensory deficient students and non-deficient students.

Null hypothesis no. 10: There is no significant difference between the total values from the autocriticism subscale in sensory deficient students and non-deficient students.

Participants

For this study, the participants were students from the High School for the Visually Impaired, High School for the Hearing Impaired and also other students from different secondary schools and high schools in Cluj-Napoca.
<table>
<thead>
<tr>
<th>Deficiency Type</th>
<th>Total Number</th>
<th>Age</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual Impairment</td>
<td>41</td>
<td>13-19</td>
<td>23 girls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(17,60)</td>
<td>18 boys</td>
</tr>
<tr>
<td>Hearing Impairment</td>
<td>42</td>
<td>13-19</td>
<td>26 girls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(17,50)</td>
<td>16 boys</td>
</tr>
<tr>
<td>Non-impaired</td>
<td>40</td>
<td>13-19</td>
<td>21 girls</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(15,81)</td>
<td>19 boys</td>
</tr>
</tbody>
</table>

The instrument used

The *Tennessee Self Concept Scale (TSCS)* has been developed by William Fitts (1965) as an instrument of measuring and evaluation of the self-concept. I chose to use *The Tennessee Self Concept Scale (TSCS)* for two major reasons. First, because this scale is in concordance with well-known definitions regarding the self-concept, which comprises several aspects of the self: physical, moral, personal, familial and social. And TSCS is a complex scale that allows the measuring of all these aspects of the self-concept. Second, TSCS is the most frequently used instrument for the measuring of the self-concept, and even for the clinical research ((Saville, E.E., 2008).

TSCS is composed of 100 descriptive affirmations about the self, which the subject has to evaluate on a 5 point Likert scale (Appendix 2). 90 of the 100 items measure the self-concept and the rest of 10 measure autocriticism. From the 90 items that measure the self-concept, 45 are positive descriptions and 45 are negative descriptions. The items which measure autocriticism are all positive. The 90 items are organized in 5 subscales corresponding to one aspect of the self (physical, moral, familial, personal, social). The total value for the 90 items indicates the general level of self-esteem and is the most important value from the scale. The participants with high values have a positive image about themselves, they consider themselves valuable and trust themselves. The participants with low values doubt themselves, don’t trust themselves, feel unwanted and often experience anxiety, depression and unhappiness.

The *Physical Self Subscale* (items 1 – 18) measure one's opinion towards his/her body, health, physical appearance, sexuality and competences.

The *Moral Self Subscale* (items 18 – 36) describes the self from an ethical point of view, examining moral values, the feeling of being “good” or “bad” and the satisfaction regarding one’s own religion or the absence of it.
The Personal Self Subscale (items 37 – 54) reflects the sense of personal value, personal adaptation, personality autoevaluation and the relations with others.

The Familial Self Subscale (items 55 – 72) reflects the feelings of adaptation and valuable family member or as a person in relations with close people.

The Social Self Subscale (items 73 – 90) measures the way in which the self is perceived in relation with others, the feeling of adaptation and social value in interaction with others.

Each subscale contains an equal number of items (18). Each aspect of the self is approached from three different perspectives: 1) self identity (items 1 - 6, 19 - 24, 37 - 42, 55 - 60 and 73 - 78) indicates the way in which the subject perceives his/her own identity, how he/she describes himself/herself; 2) self-contentment (items 7 - 12, 25 - 30, 43 - 48, 61 - 66, 79 - 84) – the extent of self-acceptance; 3) perception of self-behaviour (items 13 - 18, 31 - 36, 49 - 54, 67 - 72, 85 - 90).

Therefore, each self can be described from the point of view of self identity, self contentment and behaviour, but we can also calculate a total score for TSCS regarding identity, degree of contentment and behaviour on all the five subscales of the self, so that the total score for all the five aspects of the self is equal with the total score of identity + contentment + behaviour. Major differences between identity – contentment – behaviour can be useful for a clinician or a counsellor.

The 10 items from the autocriticism subscale (items 91-100) measure the defensiveness and are taken from MMPI (Minnesota Multiphasic Personality Inventory). The objective of this subscale is that of measuring the degree in which the participant tries to create a false positive or a false negative image.

The participants who try to create a false positive image tend to deny most of the affirmations, therefore obtaining a low score. The subjects who obtain a high score can be individuals who are not interested anymore in themselves and gave up regaining self-esteem, or they can be individuals who try to create a false negative image.

The scale can be applied to all subjects aged over 12 years, regardless of health level.

Procedure

In the first stage, I selected students from the High School for the Visually Impaired and the High School for the Hearing Impaired, aged between 13 and 19, attending full-time learning classes and who also participated in the previous study. The selection of students from the control group (students without sensory deficiencies) has been made randomly, but were also children aged between 13 and 19 and who attended full-time learning classes.
In the second stage, after they were explained the task, the scope of the data and also the confidentiality of the information by not denominating the scales, the students were asked to verbally agree to participate in the study. The students who agreed to participate in this study were subsequently applied this scale (41 visually impaired, 42 hearing impaired). The application of the TSCS scale took place in the classroom and we formed groups of maximum 12 persons. The application instructions were given in group for the sensory impaired students and individually for the non-deficient students. In the case of the students with ablepsia, the scale was read and filled individually by the examiner.

**Data Analysis and Interpretation**

*Verification of Tennessee Self Concept Scale Accuracy*

I verified the accuracy of the Tennessee Self Concept Scale in order to observe the precision degree (credibility, consistence, stability) with which the scale measures the characteristics of the self-concept. Therefore, I chose to use the Cronbach’s alpha method, the most used coefficient of reliability, both for the entire TSCS scale and for all the subscales of the self-concept.

The inter-item values of correlation coefficients for the entire scale and for all the component subscales indicate high internal consistency of the instrument.

*Verification of Research Null Hypotheses*

The independent variable is the presence or absence of hearing/visual deficiency. The dependent variable is represented by the gross score of the self-concept in TSCS scale and the gross scores from the 9 subscales: physical, moral, personal, familial, social, self identity, self-contentment, behaviour and autocriticism. The data gathered were elaborated with the programme called *Package for the Social Sciences* (SPSS) Version 13.0.

First, I tested the distribution normalcy for the gross score total obtained for the entire scale and for each subscale in all groups of students. For this stage, I used the *Kolmogorov-Smirnov Test*. All results from the K-S Test are statistically insignificant with higher than .05 thresholds. Therefore, the distribution of all variables is not significantly different from a normal one. The t test can be applied for independent samples.

In Table VI.4. we observe that the average for all TSCS subscales, including gross score, is lower in sensory impaired persons than in non-deficient persons. In order to determine what are the statistically significant differences, I applied the t test for independent samples.
Table VI.4. Average and standard deviations in gross TSCS and in each subscale.

<table>
<thead>
<tr>
<th>SUBSCALE</th>
<th>Visually impaired</th>
<th>Hearing impaired</th>
<th>Non-deficient</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Average</td>
<td>Standard Deviation</td>
<td>Average</td>
</tr>
<tr>
<td>Total TSCS</td>
<td>309,79</td>
<td>40,61</td>
<td>304,19</td>
</tr>
<tr>
<td>Physical Self</td>
<td>63,93</td>
<td>10,22</td>
<td>61,81</td>
</tr>
<tr>
<td>Moral Self</td>
<td>62,20</td>
<td>10,20</td>
<td>61,27</td>
</tr>
<tr>
<td>Personal Self</td>
<td>61,19</td>
<td>11,04</td>
<td>63,17</td>
</tr>
<tr>
<td>Familial Self</td>
<td>62,42</td>
<td>7,77</td>
<td>62,03</td>
</tr>
<tr>
<td>Social Self</td>
<td>60,54</td>
<td>7,24</td>
<td>57,43</td>
</tr>
<tr>
<td>Self Identity</td>
<td>109,62</td>
<td>16,64</td>
<td>108,7</td>
</tr>
<tr>
<td>Self-Contentment</td>
<td>99,61</td>
<td>14,45</td>
<td>97,44</td>
</tr>
<tr>
<td>Behaviour</td>
<td>100,41</td>
<td>12,10</td>
<td>98,04</td>
</tr>
<tr>
<td>Autocriticism</td>
<td>32,48</td>
<td>6,47</td>
<td>33,88</td>
</tr>
</tbody>
</table>
Table VI.5. Comparison between the results average in visually impaired students and in non-deficient students

<table>
<thead>
<tr>
<th>SCALE</th>
<th>LEVENE TEST</th>
<th>T TEST FOR INDEPENDENT SAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Significant</td>
</tr>
<tr>
<td>Physical Self</td>
<td>Homogeneous dispersion</td>
<td>.766</td>
</tr>
<tr>
<td></td>
<td>Heterogeneous dispersion</td>
<td>-2.769</td>
</tr>
<tr>
<td>Moral Self</td>
<td>Homogeneous dispersion</td>
<td>3.087</td>
</tr>
<tr>
<td></td>
<td>Heterogeneous dispersion</td>
<td>-1.718</td>
</tr>
<tr>
<td></td>
<td>Heterogeneous dispersion</td>
<td>-3.836</td>
</tr>
<tr>
<td></td>
<td>Heterogeneous dispersion</td>
<td>-3.711</td>
</tr>
<tr>
<td>Social Self</td>
<td>Homogeneous dispersion</td>
<td>3.495</td>
</tr>
<tr>
<td></td>
<td>Heterogeneous dispersion</td>
<td>-2.925</td>
</tr>
<tr>
<td>Scale</td>
<td>Homogeneous dispersion</td>
<td>Heterogeneous dispersion</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------</td>
<td>--------------------------</td>
</tr>
<tr>
<td>Self Identity</td>
<td>7,438 .008</td>
<td>-4.137 79 .000</td>
</tr>
<tr>
<td></td>
<td>-4.166 61,788 .000</td>
<td>-12,339 2,962 -18,261 -6,417</td>
</tr>
<tr>
<td>Contentment</td>
<td>6,451 .013</td>
<td>-2.902 79 .005</td>
</tr>
<tr>
<td></td>
<td>-2.917 68,598 .005</td>
<td>-7,865 2,696 -13,245 -2,485</td>
</tr>
<tr>
<td>Behaviour</td>
<td>.244 .623</td>
<td>-2.240 79 .028</td>
</tr>
<tr>
<td></td>
<td>-2.243 78,488 .028</td>
<td>-5,735 2,556 -10,824 -.645</td>
</tr>
<tr>
<td>Autocriticism</td>
<td>.342 .560</td>
<td>-1.645 78 .104</td>
</tr>
<tr>
<td></td>
<td>-1.645 77,932 .104</td>
<td>-2,417 1,469 -5,342 .507</td>
</tr>
</tbody>
</table>

Table VI.6. Comparison between the results average in hearing impaired students and in non-deficient students

<table>
<thead>
<tr>
<th>Scale</th>
<th>Levene Test</th>
<th>T Test for Independent Samples</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Significant</td>
</tr>
<tr>
<td>Total TSCS</td>
<td>Homogeneous dispersion</td>
<td>1,387 .242</td>
</tr>
<tr>
<td></td>
<td>Heterogeneous dispersion</td>
<td>-3.463</td>
</tr>
<tr>
<td>Physical Self</td>
<td>Homogeneous dispersion</td>
<td>4,504 .037</td>
</tr>
<tr>
<td></td>
<td>Heterogeneous dispersion</td>
<td>-4.905</td>
</tr>
<tr>
<td>Moral Self</td>
<td>Homogeneous</td>
<td>.337 .563</td>
</tr>
<tr>
<td></td>
<td>Heterogeneous</td>
<td>-1,557</td>
</tr>
<tr>
<td></td>
<td>dispersion</td>
<td></td>
</tr>
<tr>
<td>--------------------------</td>
<td>------------</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Personal Self</strong></td>
<td>Homogeneous dispersion</td>
<td>.160</td>
</tr>
<tr>
<td></td>
<td>Homogeneous dispersion</td>
<td>-3,775</td>
</tr>
<tr>
<td><strong>Familial Self</strong></td>
<td>Homogeneous dispersion</td>
<td>.726</td>
</tr>
<tr>
<td></td>
<td>Homogeneous dispersion</td>
<td>-5,002</td>
</tr>
<tr>
<td><strong>Social Self</strong></td>
<td>Homogeneous dispersion</td>
<td>1,133</td>
</tr>
<tr>
<td></td>
<td>Homogeneous dispersion</td>
<td>-5,767</td>
</tr>
<tr>
<td><strong>Self Identity</strong></td>
<td>Homogeneous dispersion</td>
<td>.325</td>
</tr>
<tr>
<td></td>
<td>Homogeneous dispersion</td>
<td>-6,452</td>
</tr>
<tr>
<td><strong>Contentment</strong></td>
<td>Homogeneous dispersion</td>
<td>2,025</td>
</tr>
<tr>
<td></td>
<td>Homogeneous dispersion</td>
<td>-5,417</td>
</tr>
<tr>
<td><strong>Behaviour</strong></td>
<td>Homogeneous dispersion</td>
<td>1,917</td>
</tr>
<tr>
<td></td>
<td>Homogeneous dispersion</td>
<td>-3,620</td>
</tr>
<tr>
<td><strong>Autocriticism</strong></td>
<td>Homogeneous dispersion</td>
<td>10,043</td>
</tr>
<tr>
<td></td>
<td>Homogeneous dispersion</td>
<td>-8.04</td>
</tr>
</tbody>
</table>
Table VI.7. Comparison between the results average in visually impaired students and in hearing impaired students

<table>
<thead>
<tr>
<th>SCALE</th>
<th>LEVENE TEST</th>
<th>T TEST FOR INDEPENDENT SAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>Significant</td>
</tr>
<tr>
<td>Total TSCS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Homogeneous</td>
<td>10,205</td>
<td>.002</td>
</tr>
<tr>
<td>Heterogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Self</td>
<td>7,330</td>
<td>.008</td>
</tr>
<tr>
<td>Homogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moral Self</td>
<td>5,222</td>
<td>.025</td>
</tr>
<tr>
<td>Homogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal Self</td>
<td>9,966</td>
<td>.002</td>
</tr>
<tr>
<td>Homogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Familial Self</td>
<td>8,301</td>
<td>.005</td>
</tr>
<tr>
<td>Homogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Self</td>
<td>2,130</td>
<td>.342</td>
</tr>
<tr>
<td>Homogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self Identity</td>
<td>5,712</td>
<td>.019</td>
</tr>
<tr>
<td>Homogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterogeneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Homogeneous dispersion</td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>------------------------</td>
<td>--------</td>
</tr>
<tr>
<td></td>
<td>Heterogeneous dispersion</td>
<td></td>
</tr>
<tr>
<td><strong>Contentment</strong></td>
<td></td>
<td>14,497</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Behaviour</strong></td>
<td></td>
<td>3,141</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Autocriticism</strong></td>
<td></td>
<td>5,467</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
We can observe that in the case of the visually impaired (Table VI.5.), and also in the case of the hearing impaired (Table VI.6.), in 8 from 10 scales, there are significant differences between their score and that of the non-deficient students, as follows: Total TSCS, t(79)=2.212, p<0.03 for the visually impaired t(80)=3.518, p<0.001 for the hearing impaired; Physical Self Subscale, t(79)=2.762, p<0.007 for the visually impaired and t(70.1)=4.905, p<0.000 for the hearing impaired; Personal Self Subscale, t(69.3)=3.836, p<0.000 for the visually impaired and t(80)=3.778, p<0.000 for the hearing impaired; Familial Self Subscale, t(73.6)=3.711, p<0.000 for the visually impaired and t(80)=5.016, p<0.000 for the hearing impaired; Social Self Subscale, t(79)=2.914, p<0.005 for the visually impaired and t(80)=5.749, p<0.000 for the hearing impaired; Self Identity Subscale, t(61.7)=4.166, p<0.000 for the visually impaired and t(80)=6.441, p<0.000 for the hearing impaired; Self-contentment Subscale, t(68.5)=2.917, p<0.005 for the visually impaired and t(80)=5.449, p<0.000 for the hearing impaired; Behaviour Subscale t(79)=2.240, p<0.028 for the visually impaired and t(80)=3.634, p<0.000 for the hearing impaired.

According to the results obtained from the visually impaired and hearing impaired students, there is only one significant difference of the scores from the Social Self Subscale, t(81)=2.130, p<0.036 (Table VI.7).

In order to describe more accurately the structure of the self-concept in sensory impaired students, I also analyzed the five dimensions of the self, according to the way they perceive themselves (identity subscale), how content they are (self-contentment subscale) and in what degree the way they see themselves and their contentment level transfer in a behaviour correspondent to each dimension of the self (behavior subscale).

**Structural analysis (identity-contentment-behaviour) of the self (physical, moral, personal, familial, social) and of the self-concept**

In order to compare the three groups from the point of view of the five dimensions of the self (physical, moral, personal, familial, social) and taking into consideration the three levels (identity, contentment, behaviour), I tested the distribution normalcy for each subscale using the Kolmogorov-Smirnov Test. Because all results from the K-S tests are statistically insignificant, with higher than .05 thresholds, therefore the distribution of all variables is not significantly different from a normal one, I applied the t Test for independent samples.

The averages from all the identity-contentment-behaviour subscales are lower in sensory deficient persons than in non-deficient persons. In order to see which of the differences are statistically significant, I applied the t Test for independent samples.
The results of the three levels, identity-contentment-behaviour, within the subscales of the physical, moral, personal, familial and social self, certifies in great part the total results obtained for the five dimensions of the Self:

- there is no significant difference between sensory impaired students and non-deficient students at any level within the Moral Self Subscale: Identity \( t(79) = -1.835, p < .07 \), for the visually impaired, Contentment \( t(73.4) = -.115, p < .908 \), for the visually impaired and \( t(80) = .629, p < .571 \) for the hearing impaired, Behaviour \( t(79) = -.218, p < .828 \), for the visually impaired and \( t(65.1) = -1.287, p < .203 \) for the hearing impaired.

- there are significant differences between the sensory impaired students and non-deficient students in the Physical Self Subscale-identity, Physical Self Subscale-contentment, Physical Self Subscale-behaviour, Personal Self Subscale-identity, Personal Self Subscale-contentment, Social Self Subscale-identity, Social Self Subscale-contentment, Social Self Subscale-behaviour.

The only notable difference between the analysis of the levels identity-contentment-behaviour of the Self and the total results of the five dimensions of the self can be seen in the Familial Self Subscale, with the following results:

- the average from the visually impaired students is significantly lower at the identity level \( (t(68.8) = -4.629, p < .000) \), while for the contentment level \( (t(79) = -.590, p < .557) \) and the behaviour level \( (t(79) = -1.762, p < .082) \), the differences are not significant.

- the average from the hearing impaired students is significantly lower at the identity level \( (t(80) = -4.500, p < .000) \), while for the contentment level \( (t(80) = -4.177, p < .000) \) and the behaviour level \( (t(68.9) = -1.320, p < .191) \), the differences are not significant.

As for the differences between the two categories of sensory deficient students, those with hearing deficiencies obtained a significantly lower score in Familial Self Subscale-contentment \( (t(81) = 3.234, p < .002) \), Social Self Subscale-identity \( (t(81) = 2.308, p < .024) \), Social Self Subscale-behaviour \( (t(81) = 2.873, p < .005) \).

Subsequently, I made some additional statistical elaborations, taking into consideration age and gender. Considering the very low thresholds we obtained, we anticipate that the differences between sensory impaired students and non-deficient students will maintain regardless of age or gender.

**The results analysis in TSCS scale according to age**

In order to observe the way in which age influences the self-concept, I divided the participant groups in two subgroups: secondary school students (in our case, students aged between 13 and 15 years) and high school students (aged between 16 and 19 years).
In order to see if there are any differences within the structure of the self-concept according to age and taking into consideration the great difference in participants’ number of each group, and also the small number of participants aged between 13 and 15, I used the Kruskal-Wallis H Test, which is the nonparametric equivalent of the one-way ANOVA test. Also, because of the small number of hearing impaired and visually impaired students aged between 13 and 15, I chose to form one single group.

I found that both for the total score in TSCS and for the majority of the scales, except the Moral Self, the results differ significantly according to age. In order to see in what groups of age those significant differences exist, I applied the Mann-Whitney U Test, comparing the groups in pairs. Because of the multiple comparisons, the significance threshold was corrected through the Bonferroni method, so that all results were referred to $\alpha=0.008$.

The results show that the scores are not significantly different between the two groups of age, whether we consider the sensory deficient students or the non-deficient students.

Instead, for the inter-group comparison, I noticed the following significant differences:

For the group of age 13-15, the sensory impaired students have obtained significantly lower results than those of the non-deficient students, within the following scales: Self-Concept $U=85$, $z=-3.41$, $p=0.001$, Familial Self Subscale $U=116$, $z=-2.634$, $p=0.008$, Identity $U=59$, $z=-4.066$, $p=0.000$.

For the group of age 16-19, the sensory impaired students have obtained significantly lower results than those of the non-deficient students, within the following scales: Self-Concept $U=268.5$, $z=-3.573$, $p=0.000$, Physical Self Subscale $U=326.5$, $z=-2.932$, $p=0.003$, Personal Self Subscale $U=269$, $z=-3.570$, $p=0.000$, Familial Self Subscale $U=202.5$, $z=-4.312$, $p=0.000$, Social Self Subscale $U=282.5$, $z=-3.420$, $p=0.001$, Identity $U=260$, $z=-3.669$, $p=0.000$, Self-contentment $U=282$, $z=-3.423$, $p=0.001$, Behaviour $U=260.5$, $z=-3.664$, $p=0.000$.

The results analysis in TSCS scale according to gender

In order to observe the way in which gender influences the structure of the self-concept and because of the small number of participants and the gender differences, I compared again the groups using the Kruskal-Wallis H Test, which is the nonparametric equivalent of the one-way ANOVA test.

I found that both for the total score of the self-concept and for the majority of the subscales, except the Moral Self and Autocriticism, the results differ significantly according to gender. In order to see in what groups of gender those significant differences exist, I applied the Mann-Whitney U Test, comparing the groups in pairs. Because of the multiple
comparisons, the significance threshold was corrected through the Bonferroni method, so that all results were referred to \( \alpha = 0.008 \).

Regarding *sensory impaired students*, I obtained no significant difference between the two genders.

In the case of *non-deficient students*, I obtained one single significant difference between the two genders, respectively a lower score for girls in *Physical Self Subscale*: \( U = 76, z = -3.352, p = 0.001 \). In the other scales, including the total score of the self-concept, although there is the tendency of a lower score in girls than in boys, there was no significant difference: *Self-Concept* \( U = 114, z = -2.304, p = 0.021, \) *Personal Self Subscale* \( U = 126.5, z = -1.980, p = 0.048 \), *Familial Self Subscale* \( U = 138.5, z = -1.657, p = 0.098 \), *Social Self Subscale* \( U = 177, z = -0.611, p = 0.541 \), *Identity* \( U = 111, z = -2.400, p = 0.016 \), *Contentment* \( U = 147.5, z = -1.410, p = 0.159 \), *Behavior* \( U = 110, z = -2.426, p = 0.015 \).

Instead, the *sensory impaired boys* as compared to non-deficient boys have obtained significantly lower scores within the majority of the subscales at the lowest possible threshold 0.000 (except in *Moral Self Subscale* and *Autocriticism*): *Self-Concept* \( U = 81, z = -4.268, p = 0.000 \), *Physical Self Subscale* \( U = 73, z = -4.432, p = 0.000 \), *Personal Self Subscale* \( U = 113, z = -3.634, p = 0.000 \), *Familial Self Subscale* \( U = 114.5, z = -3.602, p = 0.000 \), *Social Self Subscale* \( U = 107.5, z = -3.744, p = 0.000 \), *Identity* \( U = 78, z = -4.330, p = 0.000 \), *Contentment* \( U = 119.5, z = -3.501, p = 0.000 \), *Behavior* \( U = 104.5, z = -3.799, p = 0.000 \).

The *sensory impaired girls* as compared to non-deficient girls have obtained significantly lower scores in only two subscales: *Familial Self Subscale* \( U = 327, z = -2.672, p = 0.008 \) and *Identity* \( U = 289, z = -3.134, p = 0.002 \), the other differences not reaching the significance threshold limit (*Self-Concept* \( U = 364.5, z = -2.212, p = 0.027 \), *Physical Self Subscale* \( U = 456, z = -1.908, p = 0.272 \), *Personal Self Subscale* \( U = 351, z = -2.379, p = 0.017 \), *Social Self Subscale* \( U = 345.5, z = -2.447, p = 0.014 \), *Contentment* \( U = 355.5, z = -2.323, p = 0.020 \), *Behavior* \( U = 500, z = -0.561, p = 0.575 \).

For a much detailed analysis of the results obtained by girls, I made a differential analysis according to categories of sensory deficiencies. Therefore, I compared the results of the visually impaired girls and those of the hearing impaired girls with the results of the non-deficient girls, using the Mann-Whitney U test, and the significance threshold was corrected through the Bonferroni method, so that all results were referred to \( \alpha = 0.003 \).

The scores of the visually impaired girls are not significantly different from those of the non-deficient girls (*Self-Concept* \( U = 240, z = -0.496, p = 0.620 \), *Physical Self Subscale* \( U = 256.5, z = -0.133, p = 0.895 \), *Personal Self Subscale* \( U = 191, z = -1.579, p = 0.114 \), *Familial Self*...
Instead, the scores of the hearing impaired girls are significantly different in four scales from the non-impaired girls: Self-Concept $U=124.5$, $z=-3.306$, $p=0.001$, Social Self Subscale $U=122$, $z=-3.362$, $p=0.001$, Identity $U=91.5$, $z=-3.993$, $p=0.000$, Contentment $U=112$, $z=-3.568$, $p=0.000$.

**Results interpretation**

According to the results presented in *Data Analysis*, we can accept the following null hypotheses: Null hypothesis no.3 (There is no significant difference between the total values from the Moral Self Subscale in sensory deficient students and non-deficient students) and Null hypothesis no. 10 (There is no significant difference between the total values from the Autocriticism subscale in sensory deficient students and non-deficient students in TSCS scale) and we reject all the other null hypotheses, accepting only the following specific hypotheses:

Specific hypothesis no. 1: There is a significant difference between the total scores of the self-concept in sensory impaired students and non-deficient students, in TSCS scale.

Specific hypothesis no. 2: There is a significant difference between the scores of the Physical Self Subscale in sensory impaired students and non-deficient students.

Specific hypothesis no. 3: There is a significant difference between the scores of the Personl Self Subscale in sensory impaired students and non-deficient students.

Specific hypothesis no. 4: There is a significant difference between the scores of the Familial Self Subscale in sensory impaired students and non-deficient students.

Specific hypothesis no. 5: There is a significant difference between the scores of the Social Self Subscale in sensory impaired students and non-deficient students.

Specific hypothesis no. 6: There is a significant difference between the scores of the Self Identity Subscale in sensory impaired students and non-deficient students.

Specific hypothesis no. 7: There is a significant difference between the scores of the Self-acceptance Subscale in sensory impaired students and non-deficient students.

Specific hypothesis no. 8: There is a significant difference between the scores of the Behaviour Subscale in sensory impaired students and non-deficient students.

Comparatively with non-deficient students, the sensory impaired students (hearing or visually impaired) have a lower self-concept regarding their own body and physical aspect, their personal value as family members or members in a society. This difference of the self-concept reflects not only in the way in which sensory impaired students perceive and describe
themselves, but also in their day-to-day behaviour and in the degree of contentment towards themselves. All these data, together with the fact that the total score of the Self-Concept in Tennessee Scale is significantly lower in these students, allow me to conclude that the sensory impaired students have a significantly lower self-esteem.

This interpretation is also corroborated with the analysis on groups of age. According to the results presented above, we can observe that these significant differences of the self-concept also apply to all levels, regardless of age. Even if within the groups there was no significant difference between the students from secondary school and those from high school, the differences between sensory impaired students and non-deficient students are maintained both in secondary school and in high school, therefore sustaining my specific hypotheses. In other words, regardless of age, the sensory impaired students have a low self-esteem.

All the results correspond to my expectations based on specialized studies, respectively the results obtained in study 1, the only exception being the results from the Familial Self Subscale, where I did not expect to get a significant difference between sensory deficient students and non-deficient students. Individually analysing the scores obtained on the identity-contentment-behaviour levels, we can observe that the scores are significantly lower at the identity level, less lower at the contentment level, and not significant different at the behaviour level, in the sensory impaired students compared to non-deficient students. In other words, sensory impaired students (visually impaired or hearing impaired) have a problem in the way they perceive themselves as members of the family, but the problem does not reflect in their behaviour.

There can be a few explanations: The sensory impaired students who participated in this study have a problem with the self-concept as family members at the self identity level, either because of the fact that most of them are institutionalized, they live in a boarding school away from their families, or in a foster care center, or they are part of a family with parents or siblings who have similar sensory deficiency problems. In what degree the institutionalization or appertaining to a family with similar sensory deficiency problems affects self-esteem and the self-concept could be the subject of further studies.

Although most of the scores of the hearing impaired students are close to those of the visually impaired, we notice that the hearing impaired students have a significantly lower score in the Social Self Subscale (identity and behaviour). This fact indicates that the hearing impaired students have significant problems not only in the way they perceive and describe themselves as society members or social groups members, but can also have relating and
social integration problems. The situation derives from the hearing deficiency itself, which affects the main communication channel, namely verbal communication.

I obtained interesting results also from the gender analysis of the scores. The results analysis within the groups underlined no significant difference between the sensory impaired girls and boys. But in the case of non-deficient students, I noticed a significant lower self-esteem of girls regarding the physical appearance. The fact that girls have a lower self-esteem than boys regarding physical appearance can be explained on the one hand as an effect of adolescence, and on the other hand as a cultural effect, where a girl’s image is more centered on the physical image.

Surely, we can ask ourselves why this difference of the physical self is not maintained also in sensory impaired students. The answer is that their self-concept, their self image of their own body and physical appearance are already affected by the existence of a sensory deficiency, which they accepted in a certain degree.

Another interesting result regarding gender differences is that, although sensory impaired boys obtained significantly lower results for most of the self-concept levels (except moral self and autocriticism) compared to the non-deficient boys, the sensory impaired girls have a problem in developing their self-concept only at the identity level, namely in the way they perceive and describe themselves, and at the familial self level. In order to correctly interpret these differences, I analyzed the medians, respectively the rates obtained by boys in comparison to girls, and I also made a differential analysis according to gender and sensory deficiency type.

At the end of this analysis, I identified several important aspects:
(1) Although in sensory impaired girls I obtained only two significant differences (identity and familial self level), the tendency to a lower score in comparison with non-deficient girls is maintained at all self-concept levels.
(2) The scores of the visually impaired girls are not significantly different from the scores of the non-deficient girls.
(3) The scores of the hearing impaired girls are significantly lower than the scores of the non-deficient girls, in four scales: Self-concept, Social Self Scale, Identity and Self-contentment.
(4) The level analysis of the self dimensions underlined the fact that the hearing impaired girls have problems in developing self-concept in Personal Self-contentment level, Familial Self-identity level, Social self-identity level. Therefore, it seems that girls have problems in developing self-concept at the familial self identity and social self, problems which, together with the existence of a deficiency, can lower self-contentment.
(5) On the other hand, both visually impaired boys and hearing impaired boys had significantly lower scores at all self levels than non-deficient boys.

(6) Although the analysis within the groups presented no significant difference between boys and girls, the analysis of the medians and rates showed another situation: in non-deficient students, boys have higher scores than girls; in sensory impaired students, regardless of deficiency type, there was no constant tendency of scores (table VI.17., diagram VI.1., diagram VI.2.).

All these observations lead to the idea that, beside statistically significant differences obtained in this study, the self-concept, respectively the self-esteem is not a psychological characteristic which once formed stays unchanged, but it is rather sensitive to various factors, like gender, deficiency type, family, or any other changes in time and space that are part of an
individual's life. The formation and development of self image and of self-esteem represent an extremely contextualized phenomenon. That is why any analysis should take into consideration individual, familial, social and contextual particularities.
Conclusions

The first study comparatively analyzed the way in which members of a group, in our case the visually impaired and the hearing impaired students, perceive themselves (autostereotype) and others around them (heterostereotype).

After analysing all the data, I discovered that generally there is a major difference between autostereotypes and heterostereotypes from the point of view of psychomoral traits, in the sense that the psychomoral traits which are constituents of autostereotypes are predominantly positive in both groups, while the psychomoral traits which are constituents of heterostereotypes are predominantly negative. Thus, the autostereotype in the High School for the Visually Impaired is entirely composed of positive characteristics, and the heterostereotype in hearing impaired students contains only negative characteristics. The visually impaired students perceive themselves as being ambitious, smart, attentive, calm and brave, while the hearing impaired students see themselves as underdeveloped, restless, aggressive, solitary, and inattentive. Similarly, but to a smaller extent, this discrepancy between the positive aspect of the autostereotype and the negative aspect of the heterostereotype can be found also in the High School for Hearing Impaired Children: the hearing impaired students perceive themselves as being friendly, hardworking, smart, restless and brave, while the visually impaired students see themselves as calm, smart, deficient, sad and ill. In this case, if we analyze the absolute frequencies, we can observe a score of 140 vs. 33 in favor of positive traits from the autostereotype, and a score of 63 vs. 59 in favor of negative traits from the heterostereotype.

Another interesting aspect is the fact that the participants have generated and chose a smaller number of traits, predominantly physical, and a much higher number of predominantly intellectual and psychomoral traits.

The comparisons between the two analyzed groups have as a result a positive difference between the group one is part of (visually impaired/hearing impaired) and other group (hearing impaired/visually impaired), confirming the three hypotheses from the beginning of this research.

As for the results obtained from the second study, we can observe that the sensory impaired students (hearing or visually impaired) have a lower self-concept regarding their own body and physical aspect, their personal value as family members or members in a society. This difference of the self-concept reflects not only in the way in which sensory impaired students perceive and describe themselves, but also in their day-to-day behaviour and in the degree of contentment towards themselves. All these data, together with the fact
that the total score of the Self-Concept in Tennessee Scale is significantly lower in these students, allow me to conclude that the sensory impaired students have a significantly lower self-esteem.

These data are confirmed also by the results obtained from the analysis according to gender. I ascertained that both for the global score in TSCS, and also for the majority of the scales, except the Moral Self, the results are significantly different according to age.

For the group of age 13-15, the sensory impaired students have obtained significantly lower results than those of the non-deficient students, within the following scales: Self-Concept, Familial Self Subscale, Identity.

For the group of age 16-19, the sensory impaired students have obtained significantly lower results than those of the non-deficient students, within the following scales: Self-Concept, Physical Self Subscale, Personal Self Subscale, Familial Self Subscale, Social Self Subscale, Identity, Self-contentment, and Behaviour.

I gathered interesting results also from the analysis of the scores according to gender.

Regarding sensory impaired students, I obtained no significant difference between the two genders.

In the case of non-deficient students, I obtained one single significant difference between the two genders, respectively a lower score for girls in Physical Self Subscale.

Instead, the sensory impaired boys as compared to non-deficient boys have obtained significantly lower scores within the majority of the subscales at the lowest possible threshold 0,000 (except in Moral Self Subscale and Autocriticism): Self-Concept, Physical Self Subscale, Personal Self Subscale, Familial Self Subscale, Social Self Subscale, Identity, Self-contentment, Behaviour.

The sensory impaired girls as compared to non-deficient girls have obtained significantly lower scores in only two subscales: Familial Self Subscale and Identity.

In order to correctly interpret these differences, I analyzed the medians, respectively the rates obtained by boys in comparison to girls, and I also made a differential analysis according to gender and sensory deficiency type. I determined that:

- in sensory impaired girls I obtained only two significant differences (identity and familial self level), but the tendency to a lower score in comparison with non-deficient girls is maintained at all self-concept levels.

- the scores of the visually impaired girls are not significantly different from the scores of the non-deficient girls.
the scores of the hearing impaired girls are significantly lower than the scores of the non-deficient girls in four scales: Self-Concept, Social Self Scale, Identity and Self-contentment.

- on the other hand, both visually impaired boys and hearing impaired boys had significantly lower scores at all self levels than non-deficient boys.

- although the analysis within the groups presented no significant difference between boys and girls, the analysis of the medians and rates showed another situation: in non-deficient students, boys have higher scores than girls; in sensory impaired students, regardless of deficiency type, there was no constant tendency of scores.

All these observations lead to the idea that, beside statistically significant differences obtained in this study, the self-concept, respectively the self-esteem is not a psychological characteristic which once formed stays unchanged, but it is rather sensitive to various factors, like gender, deficiency type, family, or any other changes in time and space that are part of an individual's life.

I consider that my research has a theoretical and applicative value for professionals who work with these categories of students and not only, because it offers information about the way in which sensory impaired students perceive themselves and are perceived by others and about the way in which the self-concept and the level of self-esteem are structured in these categories. The knowledge of these intrapersonal and interpersonal attributes can help professionals from this domain in elaborating activities which can encourage the formation and development of a high self-esteem and in promoting valorizing attitudes that can influence in the end the behaviour of this type of people. Also, it is important for the professionals in this domain to build a personal system of beliefs and positive attitudes which should influence any interaction with this category of students.

The behaviour of sensory impaired people does not influence only others attitudes towards themselves, but also their concept of self and self-esteem. These labels determine the students to develop an image of themselves, namely their self-concept. Many of the wrong stereotypic conceptions have a negative effect towards self-esteem.

It is well-known that self-esteem is also the result of education, which evolves throughout life and in which significant people from one's environment have a great role.

Therefore, the information and results of this study are also useful for the parents of these students and most of all for decision makers with great influence in elaborating services, programmes and social welfare in order to create a system of values and an adequate attitude of the society that would avoid isolation and marginalization of these children.
**Limits**

- The participants are students from the High School for Hearing Impaired Children and also from the High School for the Visually Impaired in Cluj-Napoca. Consequently, the results cannot be generalized to the whole population of sensory impaired students.

- During the investigation of autostereotypes and heterostereotypes in sensory impaired children, I used one single instrument. My choice can be explained by the fact that the evaluation methods of stereotypes meet great difficulties generated by “already made” stereotypes, they include analysing a higher number of subjects in order to determine characteristics and the impossibility to estimate the degree in which participants choose one trait as being specific to a certain group even if they do not consider it relevant.

- Both research studies are deductive, synthesizing and analyzing autostereotypes and heterostereotypes in sensory impaired students, respectively the structure of their self-concept.

- This study does not observe a causal relation between the self-concept and stereotypes, but it rather opens new directions of research regarding the relation of the two.

**Perspectives**

- The multiplication of the number of subjects, in order to enhance the results reliability.

- The identification of autostereotypes and heterostereotypes both in deficient children and also in non-deficient children.

- The identification of the sources which influence the development, maintaining and modification of the stereotypes in sensory impaired people.

- The identification of the way in which positive and negative stereotypes can influence the assimilation of other stereotypes and the way in which they can maintain and change these stereotypes.

- The investigation of a possible impact of stereotypes on the self-concept.

- The investigation of the difference between autostereotypes and heterostereotypes according to the level of self-esteem.

- The analysis of the way in which institutionalization or being part of a certain type of family (with or without one or more sensory impaired members) can influence self-esteem and the self-concept.

- The investigation of the particularities of the self-concept structure in adults, in order to identify long term effects that personal experience can have on the self-concept, and also the way in which this perception reflects on children.
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