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**DO CHILD COCHLEAR IMPLANT USERS
WHO ARE PERCEIVED UNFAVORABLY AS
COMMUNICATION PARTENERS HAVE
POOR SELF-ESTEEM?**

by

Mary Vitt

**An independent study submitted in partial
fulfillment of the requirements for the degree of**

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Emphasis in Audiology

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INTRODUCTION

This study investigated the self-esteem of child cochlear-implant users as it relates to how the child is viewed as a communication partner. How well these children communicate with others directly affects not only how they feel about themselves, but also how others feel about them. Most hearing-impaired children are born to hearing parents. According to Northern & Downs (1991), "ninety percent of children who have severe or profound sensorineural hearing loss have parents who are normally hearing. According to Marc Marschark (1993), "lack of effective communication with parents and peers is frequently a major impediment to social adjustment for deaf children." These parents do not know how to communicate with their hearing-impaired child and they may feel inadequate and frustrated when their attempts at communication do not elicit responses. According to Kenneth Altshuler (1974), "when such communication is interfered with, the bond between parent and child is altered, and along with it the quality of closeness and the clarity of identification of feelings." In addition, Altshuler (1972) reported that "the early development of the mother-child bond necessary for positive feelings of self is often impeded by the hearing-impaired child's ability to communicate."

Marschark(1993) noted that there are three main factors that are key for deaf children's competence in dealing with the world: early language experience, diversity of experience, and social interaction. Regarding the first factor, early language experience, he notes that the deaf children who appear most likely to be the most competent in all domains of childhood endeavor are those who actively participate in linguistic interactions with their parents from an early age. Concerning the second factor, diversity of experience, Marschark states that it is through active exploration of the environment

and through experience with people, things, and language that children acquire knowledge. The third factor he points out is social interaction. As with any child, the more social situations they are exposed to, the more comfortable they will feel in social situations.

Meadow (1980) reported, "social development and language acquisition are intertwined. It is to be expected that deaf children whose language development is retarded will have fewer opportunities for social interaction, both within and outside the family." Social interaction is an important part of a child's development. The more experiences a child has the better able he/she will be to deal with social situations. Meadow went on to note that, "Social development and self-concept go hand in hand."

How well children develop socially will, according to Amy Lederberg (1991) "depend on their ability to communicate linguistically". If a hearing-impaired child is able to communicate linguistically, he/she is able to communicate with others in almost the same manner that a hearing child is able to. If a hearing-impaired child is not able to communicate linguistically, this eliminates many possibilities for social interaction. Limited social interaction, in turn, leads to poor social development overall.

How someone is perceived as a communication partner is related to conversational fluency. Conversational fluency, according to Tye-Murray (1998) relates to how smoothly conversation unfolds. Factors relating to conversational fluency include: the amount of time spent trying to clarify communication, how well there is an exchange of information and ideas, and that each of the conversational partners should have an opportunity to talk. Without a smooth flow of conversation, without an exchange of information, and without shared speaking time the attempt at communication is

difficult. Whether the conversation flows smoothly or there is great difficulty, subjective impressions are formed about the communicative partner. With a high level of communicative fluency come more favorable impressions. With a low level of communicative fluency come unfavorable impressions.

In order to evaluate the self-esteem of hearing impaired children, Gallaudet University developed the Meadow-Kendall Social-Emotional Assessment Inventories for Deaf and Hearing-Impaired Students. According to Kathryn P. Meadow-Orland (1983), this inventory was developed in order for the Kendall Demonstration Elementary School at Gallaudet College to comply with regulations set forth in the Education for All Handicapped Children Act of 1975 (Public Law 94-142). Individualized education plans need to be developed for every handicapped child in the United States and the IEP needs to be based on the assessment of the child's current status in every area of development which might be of importance to educational placement and programming.

The manual for the Meadow-Kendall SEAI includes information regarding the theoretical rationale for why the inventory was developed. Four major propositions include: 1) the condition of being deaf does not in itself lead to differences in social and emotional development, 2) people who are deaf do have some shared experiences that may account for patterns of social and emotional adjustment that vary from those who are not deaf, 3) the most important of these differences is the amount of language deprivation – this in turn leads to less communication possibilities, and 4) the acceptance, or lack of acceptance, of the deaf individual by the people who are important in their lives.

The manual goes on to state that many of the life experiences of deaf children might contribute to habits or traits that could be described as "immaturity". Experiences

that may contribute to this immaturity include: a family that is overprotective, parents that overindulge the hearing-impaired child, less empathy brought about by less opportunity to talk about feelings and less opportunity to be responsible for others.

The Meadow-Kendall SEAI consists of three sections: a) social adjustment, b) self image, and c) emotional adjustment. This inventory was designed to be completed by educators and other educational personnel who have direct contact with the deaf students. The manual states that when assessing each child, the person responsible for assessing the child should keep in mind all children of the same age (both hearing and hearing-impaired). Although some questions are only applicable to hearing-impaired children, in that case the evaluator should keep in mind deaf and hearing-impaired children of the same age when responding.

The Meadow-Kendall SEAI is part of a battery of tests administered to child cochlear-implant users at the Central Institute for the Deaf summer camps. In this setting, it is the parent(s) of the children who are the ones completing this inventory. It is noted in the test manual that the inventory will only be as reliable (dependable) and valid (meaningful) as the observations of the person who completes it. Parents may not be good descriptive judges of their own children's social adjustment, self-image and emotional adjustment. One reason for this could be that the parents only want to see their child in a positive light – it would be natural for parents to want to believe that their child makes friends easily and that their child is perceived favorably by others. Another reason may be that the parents only see their child in certain situations (at home in familiar surroundings). The parents may not have as much opportunity to really see how their child relates to other children (in the classroom, on the playground, etc...) as well as how

their child relates to adults (teachers, therapists, lunchroom workers, etc...) The parents of a hearing-impaired child may not be objective enough to accurately assess their own child's self-esteem.

PURPOSE OF STUDY

There were two main purposes of this investigation. The first purpose of this study was to examine the relationship between how a child cochlear-implant user is perceived as a communication partner with the child's self-esteem as reported on the Meadow Kendall Social Emotional Adjustment Inventory. The second purpose of this study was to look at whether or not the Meadow-Kendall SEAI is reliable and valid when completed by the parent(s) of a hearing-impaired child rather than by an educational professional as it was designed to be completed.

HYPOTHESIS

Examining the following hypotheses carried out the two purposes of this study. For the first purpose it is expected that child cochlear-implant users who are perceived favorably as communication partners will have higher self-esteem than those children who are perceived less favorably as communication partners.

For the final purpose it is expected that when the parent of a hearing-impaired child completes the Meadow-Kendall SEAI, rather than an educational professional, the results may not be reliable and valid.

SUBJECTS

Eighty normal hearing adults served as judges. These individuals were aged 18 to 56 years old. Ninety-two prelingually deafened children whose ages ranged from 8;0 years to 9;11 years were selected from the 1997 and the 1998 summer camps for child cochlear-implant users held at The Central Institute for the Deaf. During the course of two to three days a variety of tests were administered to the children in order to determine each child's speech perception as well as intelligibility skills. All of the children used in this study were implanted with the Nucleus 22 cochlear-implant. The children received their implants at an average age of 3.5 years and have used an implant for an average of 5 years.

MATERIALS

In order to evaluate the judges' reactions to the videotaped communication between a child cochlear-implant user and an unfamiliar partner, a 12-item scale adapted from Tye-Murray et al (1994) was used. The children were rated on a scale from 1 to 5 with one being the most favorable on all scales except the fluency scale (Scale 3) in which a score of five was most favorable. In order to assess different aspects of subjective impressions the rating scale was broken down into three main scales with the third scale broken down into two subscales.

Scale one-measured subjective impressions of the children's personalities (persn scale). Scale two measured how the judges felt emotionally toward the child (emot scale). In other words, how comfortable would the judges feel if they were conversing with this child?

Scale three measured how the judges evaluated the overall structure of the conversation. This section was divided into two subsections: scale three and scale four. The first subsection, scale three, measured the fluency (flncy scale) of the conversation. This data was obtained from questions 1, 2 and 3 in the third section of the rating form. This section looked at whether or not there were any communication breakdowns. Finally, the second subsection, scale four, measured the exchange of information (exch info scale) – or, how much the child and the adult understood of the conversation. The conversation rating form is listed below:

Conversation Rating Form

Scale 1: Personality Scale

Your impression of the child.

If I were having a similar conversation with this child, I would think the child was:

Sociable Unsociable

Self-sufficient Helpless

Cooperative Uncooperative

Scale 2: Your reaction to the child.

If I were having a similar conversation with this child, I would feel:

Successful Unsuccessful

Relaxed Anxious

Motivated to continue the conversation Unmotivated to continue the conversation

Scale 3: Your assessment of the conversation.

Think about the overall structure of the conversation. Please indicate whether or not you agree with the following statements:

Fluency Scale

The adult talked too much. (Scale 3 #1)

The child talked too much. (Scale 3 #2)

There were many awkward pauses. (Scale 3 #3)

Exchange of Information Scale

The child understood what the adult said. (Scale 4 #4)

The adult understood what the child said. (Scale 4 #5)

Problems in communication were fixed quickly. (Scale 4 #6)

There was a meaningful exchange of information. (Scale 4 #7)

In order to rate the self-esteem of each of the child cochlear-implant users, the results from the self-image section of the Meadow-Kendall Social-Emotional Assessment Inventory (SEAI) for Deaf and Hearing-Impaired Students was used. This test is divided into three sections: social adjustment, self-image, and emotional adjustment. The test was designed to be filled out by the teachers of hearing-impaired students. However, in this study, the parents of the hearing-impaired children answered the inventory questions. This study compared the overall responses on the self-image scale of the Meadow-Kendall SEAI to how the hearing-impaired children were rated as communication partners from the 12-item scale adapted from Tye-Murray et al (1994). In addition, four questions from the Meadow-Kendall SEAI were looked at individually. These four questions are listed below:

Question #16: Tries to communicate with others (both deaf and hearing) by any means necessary.

Question #47: Participates in classroom or group activities; volunteers answers, offers opinions in discussions.

Question #53: Participates well in organized play or games (takes role of leader or follower; plays to completion; follows rules).

Question #57: Avoids communicating through speech. Seems embarrassed to use voice.

PROCEDURES

Subjective Impressions

Ninety-Two videotaped segments of communication between a child cochlear-implant user and an unfamiliar adult were used as stimuli. In this case the unfamiliar adult was a speech and hearing professional. Each videotaped segmented was three

minutes in length and a question such as “What do you like to do in the summer?” was included in it.

Each judge used the 12-item scale previously mentioned to rate the child cochlear-implant users that they viewed on videotape. There were twelve (12) children on each videotape. A group of ten judges viewed and rated each videotape. Judges viewed a near equal number of oral and total communication children.

Each judge was given a consent form that they read and signed after the experiment had been described to them. The following instructions were given to each group of judges: “In the videotape you are going to view you will see and hear several children, all cochlear-implant users, having a conversation with an adult. The adult talking with these children is a speech and hearing professional. After viewing each conversation, please complete the rating form for each child.” There was a pause of a few minutes between the viewing of each child in order to give the judges enough time to finish filling out the rating scale.

Self-Esteem

The self-image section of Meadow-Kendall Social-Emotional Assessment Inventory for Deaf and Hard of Hearing Children was used. This inventory was designed to be completed by teachers and other education personnel who work closely with deaf students. Norms for the school-age inventory are for boys and girls ages seven to 15. The inventory consists of 59 items and is divided into three sections: social adjustment, self image, and emotional adjustment. Responses are rated on a four-point scale ranging from VERY TRUE (T) to true (t) to false (f) to VERY FALSE (F). For some of the items T is the most positive assessment and for other items it is the most

negative assessment. The most positive score is assigned the numeric value 4. The most negative score is assigned the numeric value 1. The evaluator, in this case the parent, responded to the items with T (very true), t (true), f (false), F (very false). The Meadow-Kendall SEAI was designed to be a tool to alert educational professional that some children may need extra attention in certain areas.

RESULTS

Table 1 represents the mean scores and the standard deviation for each of the four rating scales: personality rating scale score of 2.1 (SD 0.76), emotional rating scale score of 2.4 (SD 0.96), fluency rating scale score of 3.7 (SD 0.34), and exchange of information rating scale score of 2.5 (SD 0.81). As can be seen, in general, children tended to be rated highly on the personality scales. Similarly, judges rated their emotional reactions as positive. Fluency and exchange of information were rated less highly. Figures 1, 2, 3 and 4 represent the personality rating score compared to Meadow-Kendall questions #16, 47, 53, and 57. These scatter plots reveal that while the ratings on the Personality Rating Scales ranged from poor to good, the majority of the Meadow-Kendall scores were high.

Table 1 – Mean scores and standard deviation for each of the four rating scales. The children were rated average on all scales except for fluency. On the fluency scale the children scored higher.

	Persn	Emot	Flncy	Exch Info
Mean	2.1	2.4	3.7	2.5
SD	0.76	0.96	0.34	0.81

Figure 1 – Responses to Meadow-Kendall question #16 compared to judges' subjective impressions of the children as communication partners. The majority of the children scored high on the Meadow-Kendall for self-esteem even though their scores on the personality rating scale ranged from good to poor.

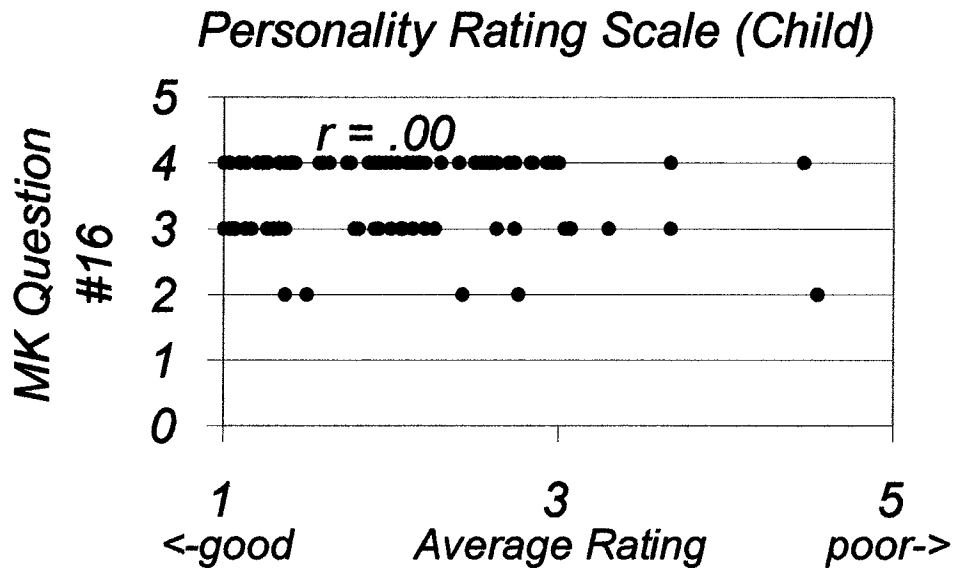


Figure 2 – Responses to Meadow-Kendall question #47 compared to judges' subjective impressions of the children as communication partners. All children scored high on the Meadow-Kendall for self-esteem even though not all children were rated highly as communication partners.

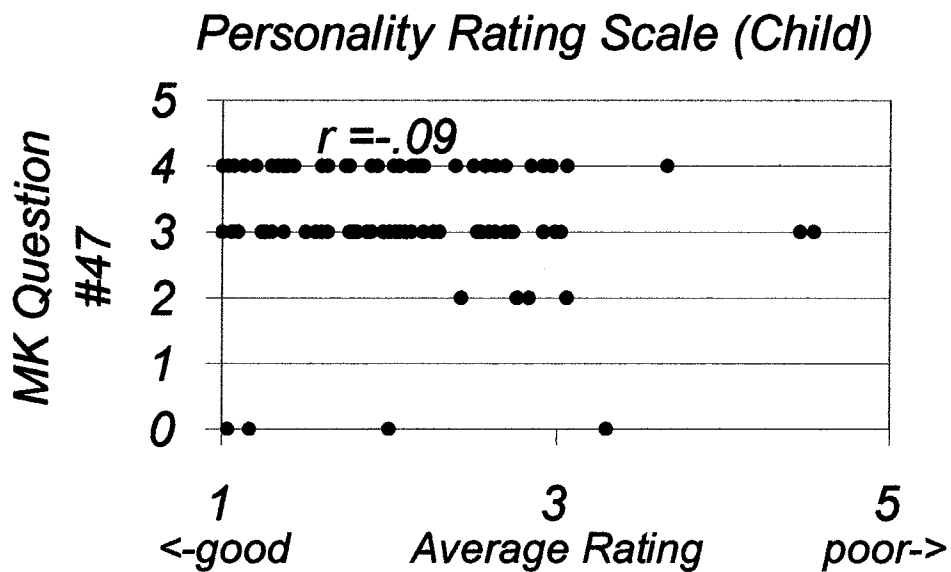


Figure 3 – Responses to Meadow-Kendall question #53 compared to judges' subjective impressions of the children as communication partners. The majority of the children were rated high on self-esteem even though the way they were rated on the personality scale ranged from good to poor.

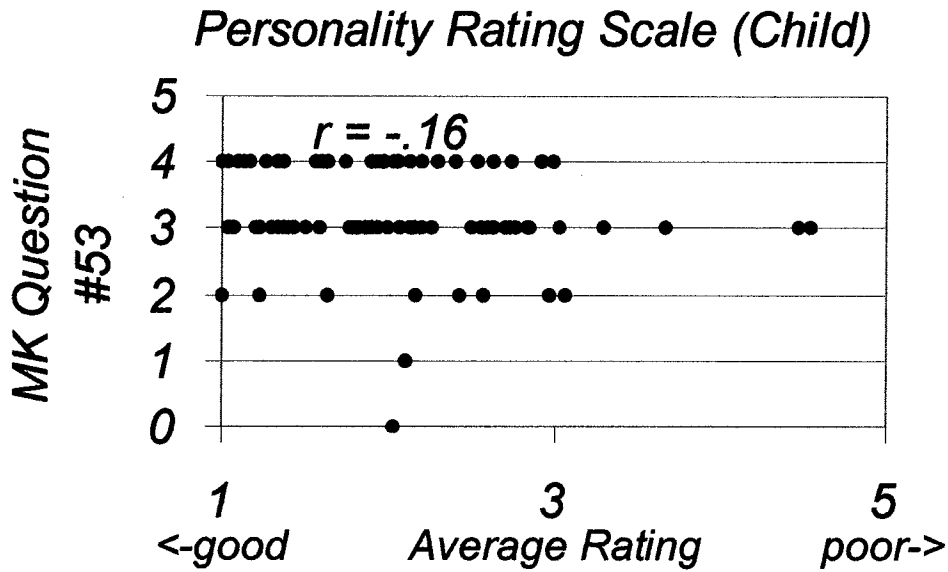
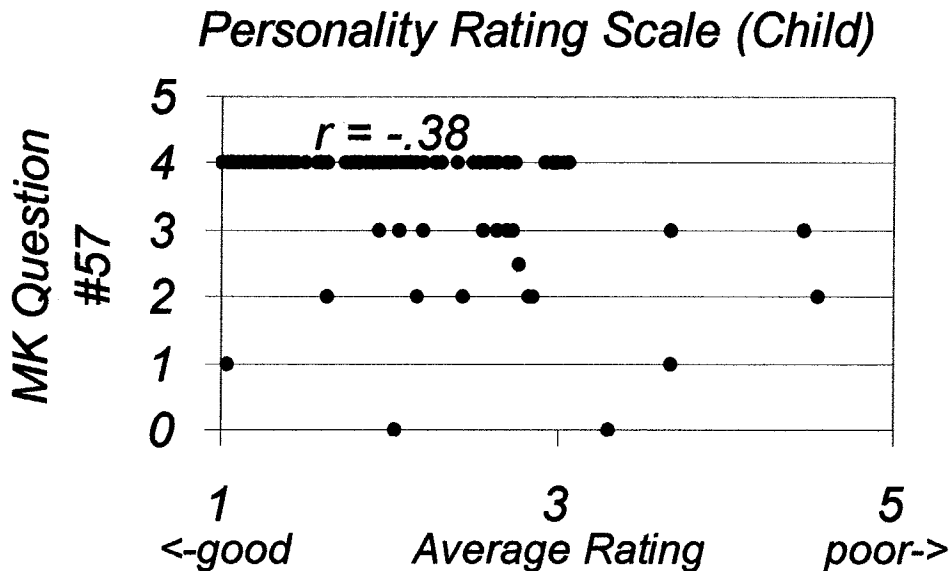


Figure 4 – Responses to Meadow-Kendall question #57 compared to the judges' subjective impressions of the children as communication partners. The majority of the children were rated as having high self-esteem even though their scores ranged from good to poor on the personality rating scale.



Overall ratings for the children from each of the three Meadow-Kendall scales (social adjustment, self-image, and emotional adjustment) are compared to how the judges' rated the children as communication partners in figures 5, 6, and 7.

Figure 5 – Compares how the children were rated by the judges' on the personality rating scale with how they were rated on the Meadow-Kendall Social Adjustment Index. Overall the children were rated as having high self-esteem even though the judges' ratings ranged from good to poor.

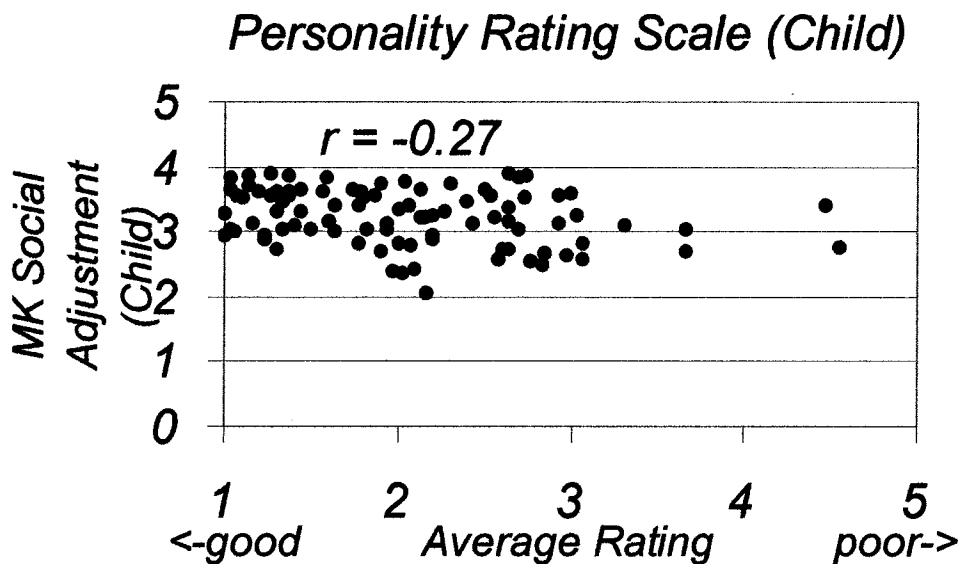


Figure 6 - Compares how the children were rated by the judges' on the personality rating scale with how they were rated on the Meadow-Kendall Self-Image Index. Overall the children were rated as having high self-esteem even though the judges' ratings ranged from good to poor.

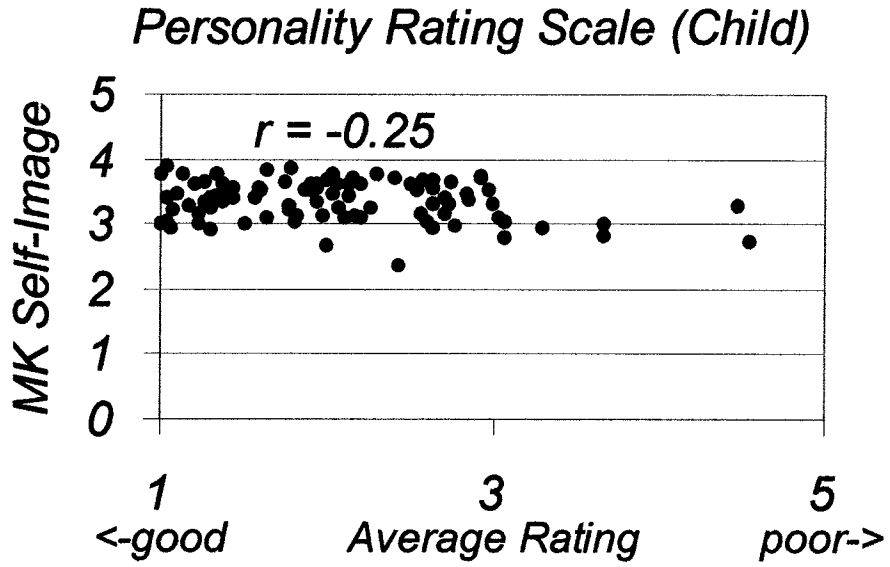
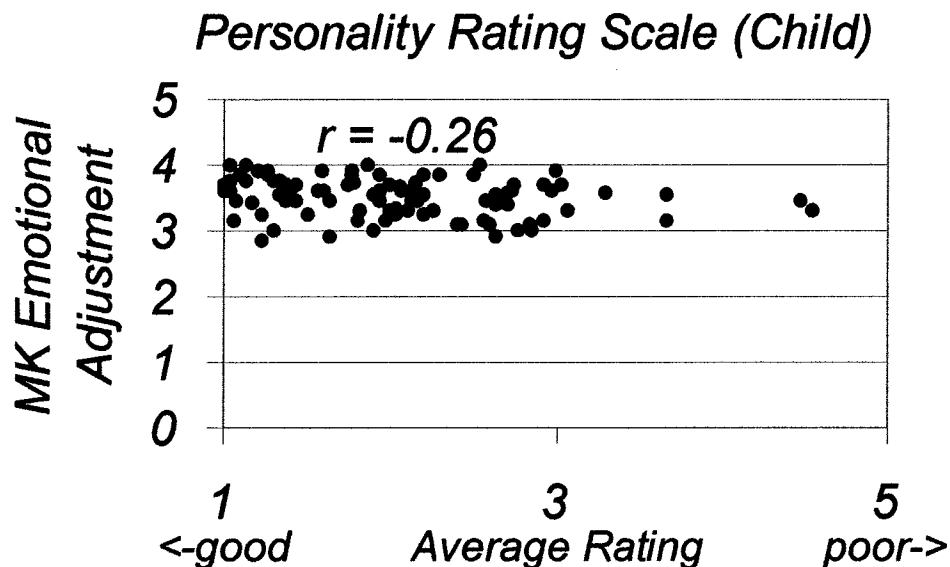


Figure 7 - Compares how the children were rated by the judges' on the personality rating scale with how they were rated on the Meadow-Kendall Emotional Index. Overall the children were rated as having high self-esteem even though the judges' ratings ranged from good to poor.



The people who served as judges to view and rate the children from the 1997 CID summer camp were mainly those who have some background with speech and hearing (having bachelor's degrees in communication disorders or deaf education). The individuals who served as judges to view and rate the children from the 1998 CID summer camp were naïve listeners in that they were all either employees of a St. Louis law firm (they ranged from office assistants to partners at the law firm) or they were family and friends. These individuals have had little, if any, exposure to hearing-impaired individuals. Whether the viewers were naïve or whether they had some background in speech and hearing appeared to have very little affect on how they rated the children as communication partners. (See table 2)

Table 2 – Comparison of the average subjective rating for summer camps 1997 and 1998.

	Persn	Emot	Flncy	Exch Info
1997 Mean	2.1	2.3	3.8	2.4
1997 SD	0.79	0.96	0.38	0.77
1998 Mean	2.0	2.4	3.7	2.5
1998 SD	0.76	0.96	0.34	0.92

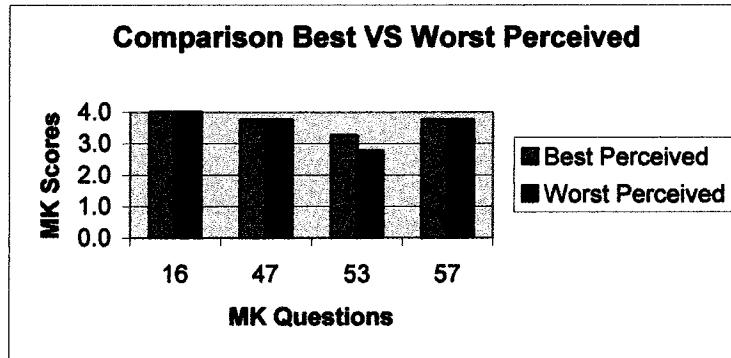
Purpose I: To correlate subjective impressions with self-esteem.

Table 1 indicates that no correlations exist between these two data sets. Children were rated as having positive self-esteem independent of subjective impressions.

Purpose II: To determine validity of the Meadow-Kendall SEAI when completed by parent(s) instead of educational personnel.

An indirect way to assess the validity of the Meadow Kendall when completed by parents is to compare the responses of parents whose children were well perceived (BP children) by judges to responses of parents whose children were perceived poorly (WP children). For this purpose, the scores of the four children who received the highest judges' ratings were averaged together and the scores of the four children who received the lowest judges' ratings were averaged together. These average subjective rating scores were then compared to the average MK scores for questions #16, 47, 53, and 57. The findings appear in figure 8.

Figure 8 – Comparison of an average of the four best perceived child communication partners with the four worst perceived child communication partners. Whether the children were perceived as good communication partners or as poor communication partners, they still scored as having high self-esteem.



DISCUSSION

Subjective impressions of child cochlear-implant users are affected by communication breakdowns. Those children with good conversational fluency are perceived favorably as communication partners and those children with poor conversational fluency are perceived less favorably as communication partners.

Results indicate that even children who were perceived unfavorably as communication partners were rated as having good self-esteem when their parents completed the Meadow-Kendall SEAI.

Therefore, having parents of hearing-impaired children complete the Meadow-Kendall SEAI instead of educational professionals may result in inflated scores. It may be hard for parents to critically judge their own children. In addition, since the Meadow-Kendall is designed to be completed by educational professionals, the questions asked are specific to classroom settings – settings that the parents would have limited information on.

In conclusion the results from this study indicate that more research needs to be done to determine if children who are perceived unfavorably as communication partners have poor self-esteem. In addition, the results imply that scores of the Meadow-Kendall SEAI are inflated when it has been completed by parents instead of by educational professionals.

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