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## Families of Children with Hearing Loss and Parental Educational Practices

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### 1. Introduction

The present chapter presents an empirical study of parental practices and behaviors related to children with and without hearing loss. Studies of families of children with hearing loss, as well as aspects related to the influence of parental practices upon the behavior of children give support to the present research.

#### 1.1 Families of children with hearing loss

People with communication disorders caused by hearing loss may present complex manifestations involving linguistic, cognitive, behavioral, psychological and social alterations. The causes can be isolated or associated to clinical aspects of different neurological or genetic problems. Children with hearing loss (HL) may be considered as a high risk population due to the presence of indicators such as: language delay, which involve communication skills, low academic progress and social emotional level (Calderon, 2000). The presence of such impairments may cause some difficulties concerning the development of the children and the relationship with their parents.

Some preventive measures should be taken more actively including the primary ones which reduce the birth incidence of children with hearing loss and secondary ones that help in its early detection. (Gatto & Tochetto, 2007).

In addition to hearing screening programs researchers emphasize the importance of training health professionals to guide parents on how to communicate with their children. The need to decide beforehand (without having enough knowledge of their benefits) the communication form that is to be used with their children possibly is a stress trigger which may influence the quality of the interaction between parents and children. (Gravel & O’Gara, 2003). Early identification of hearing loss and the consequent counseling services available in the community may help parents establish effective relationships with their children (Marchesi, 1996), and if followed by intervention allows fast access to available technologies (Smith, 2008). If this happens before six months of age, the life of the child will be positively affected, increasing the prognosis of better school performance (Smith, 2008; Marscharck, 2001; Yoshinaga-Itano & Sedey, 2000).

In the Brazilian culture parents emphatically employ verbal behavior to interact with the children from an early age. This type of behavior provides no positive effect for children

with hearing loss. Parents tend to reduce this and other types of communicative behaviors towards their deaf children as soon as they find out their children cannot hear them. A study was conducted with 19 parents in order to check feelings and expectations towards children with hearing loss. The results showed communication problems because the parents took a long time to make use of other communication means to facilitate the relationship between them (Boscolo & Santos, 2005).

In a literature review about family relationships and presence of children with hearing loss, it was observed that mothers were less equalitarian and spontaneous with deaf children than with the other children. They were also more restricting and controlling (Brito & Dessen, 1999). The relationship of the fathers with the children with hearing loss tended to be somewhat absent. The mothers assumed the care of the children and, consequently, their education (Brito, 1997). Fathers participated less intensively on the development of the children using more rational justifications, culturally more accepted, as the necessity of being absent due to work. However, fathers tend to present the same anguish and anxiety feelings reported by mothers (Canho, Neme & Yamada, 2006). The authors suggest intervention procedures geared towards the fathers in order to make them active participants in the upbringing of the children. In the Brazilian culture, the mother is responsible for taking care of the house, raising the children, including the ones with no disorder (Oliveira, Simionato, Negrelli & Marcon, 2004; Guarinello, 2004; Dias, Rocha, Pedroso & Caporali, 2005).

The authors above focus on the important role familiar interactions have for the development of deaf children. They represent opportunities for both of them to learn how to communicate with each other.

The early use of bimodal communication (oral and gestures), may prevent problems and promote mutually satisfactory interactions between parents and deaf children (Oliveira, Simionato, Negrelli & Marcon, 2004; Guarinello, 2004; Dias, Rocha, Pedroso & Caporali, 2005). Thus, interventions with children with hearing loss must also focus on their families. The use of sign language by the family helps these children to interact with the surrounding world, favoring satisfactory and appropriate relationships (Negrelli & Marcon, 2006; Lacerda, 2003).

Deaf children with deaf parents who learned the sign language during childhood had better school performance than deaf children with hearing parents. Deaf children learned to read and write two years before those with hearing parents (Marscharck, 1993). Nevertheless, 90% of the children with hearing loss have hearing parents. This fact may lead to super protective practices due to communication problems (Gargiulo, 2003).

Hearing parents expect their children to speak. They take longer to understand that other forms of communication are possible. Such communication difficulties between them may cause social skills deficits in the children (Boscolo & Santos, 2005).

Social skill may lead to a better development and help preventing behavioral problems. They may also aid the children to interact positively with people, increasing the possibility of social support as well as being able to solve problems.

Apart from hearing loss, studies have reported an inverse relation between social skills repertoire and behavior problems (Cia & Barham, 2009). Nevertheless, there is an

assumption that children with hearing loss have a lack of social skills and more behavior problems, as compared to hearing children.

A review of Brazilian papers published between 1995 and 2005 has identified the relationship between parents and children with hearing loss (Bisol, Simioni & Sperb, 2008). However there are no reports comparing positive and negative practices of parents. There are no studies comparing those conducted in clinical and nonclinical groups.

One study compared parental educational practices of hearing families with deaf children, and hearing families with hearing children. The results obtained showed that parents of children with hearing loss (HL) expressed less feelings and opinions, and did not play very much with their children. The positive practices were most frequent among parents of hearing children. Nonetheless, the study did not control other important variables as the presence or absence of behavior problems in the children (Rodrigues et al. 2010).

### 1.2 Parental educational practices of mothers of children with hearing loss

Behavioral evaluation of children and parental educational practices are important and necessary to identify the difficulties and the resources they present. It permits the elaboration of behavioral diagnosis and effective interventions with the children or with their parents/caretakers. Evaluation procedures include: spontaneous report during the interview, oriented instruments (scales, inventory) and direct observation in a natural or structured environment. However, it is important to investigate parental practices and behavior of children through validated instruments. In this study a validated inventory Roteiro de Entrevista de Habilidades Sociais Educativas Parentais (RE-HSE-P) (Interview Guide of Parental Educational Social Skills - Bolsoni-Silva, Loureiro & Marturano, 2011)<sup>1</sup> was used. It evaluates positive and negative parental educational practices, as well as behavior problems and social skills of children reported by the mothers.

Behavior problems are classified as internalizing (isolation, depression, anxiety and somatic complaints) and externalizing behaviors (impulsiveness, aggression, agitation, challenging and anti-social characteristics) (Achenbach & Edelbrock, 1979). In any of the situations if they occur for at least six months they can be considered as emotional disorders (internalizing) or as disruptive behavior (externalizing) according to DSM-IV (APA, 2006). The externalizing behaviors are characterized by improper expression usually towards other people, with a tendency to harm them (Kazdin & Weisz, 2003). On the other hand, internalizing behaviors refer to harmful actions towards the person himself. However, in both cases they are considered inadequate for infantile social skills.

Infantile social skills have been reviewed by Calderella (Caldarella & Merrell, 1997). They identified a diversity of infantile social skills, as follows: 1) *peers relationship skills* (greeting, praising, helping, negotiating, inviting friends to play); 2) *self-control skills* (controlling humor, dealing with criticism); 3) *academic skills* (removing doubts, following teacher's instructions, working independently); 4) *adaptability skills* (following rules and instructions,

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<sup>1</sup> This study kept the original denomination for RE-HSE-P. The corresponding name in English is Interview Guide of Parental Educational Social Skills.

using free time properly, answering requests); 5) *assertive skills* (starting conversation, accepting invitations, replying greetings). Nonetheless, other components of the children social skills may be present, such as: emotional expressiveness, civility, empathy, interpersonal problems solution, ability to make friends and social academic skills (Del Prette & Del Prette, 2006).

In a study with 48 preschoolers (24 with behavioral problem and 24 without), behavioral categories for the infantile social skills were suggested from evaluations of mothers and teachers. They were classified as: (a) **Social availability and cooperation**: Child makes requests, tries to help, asks questions, greets people, praises people, takes initiatives; (b) **Expression of feelings and coping**: expresses properly: thoughts, concerns and needs, shows distress, gives opinions, claims personal rights, is usually in a good mood and negotiates; (c) **Positive social interaction**: communicates in a positive manner, makes friends, plays with them, has nonverbal interaction (Bolsoni-Silva, Marturano, Pereira & Manfrinato, 2006).

Positive parental practices may avoid the appearance and/or the maintenance of difficulties in interactions established between parents and children. On the other hand, negative practices may increase the probability of their occurrences (Patterson, Reid & Dishion, 2002).

Positive educational practices include positive monitoring and moral behavior. Positive monitoring comprises the appropriate employment of attention and to grant privileges. Moral behavior implies promoting favorable conditions to the development of virtues and cultural values (empathy, notion of justice, responsibility, and work). Negative educational practices comprise negligence, permissiveness, negative monitoring, inconsistent punishment and physical abuse (Gomide, 2006).

Parental social educational skills constitute important behaviors to guarantee a positive parental practice. In order to study the parents-children interaction as parental educational social skills (ESS-P); such skills were classified as: communication (talking, asking) expression of feelings and coping (expressing positive and negative feelings, opinions, demonstrating concern, playing) and establishing limits (identifying and reinforcing socially skilful and nonskilful behaviors, setting rules, being consistent, agreeing with the spouse, fulfilling promises, identifying mistakes and apologizing) (Bolsoni-Silva, Loureiro & Marturano, 2011).

The interview guide (RE-HSE-P) was elaborated based on the propositions of authors involved in the social skills field (Del Prette & Del Prette, 1999; Caballo, 1991) and researchers involved in the study of parental practices (Patterson, Reid & Dishion, 2002; Reid, Webster-Stratton & Hammond, 2003). Authors of the Behavior Analysis field were consulted especially concerning the application of functional analyses in clinical practice (Goldiamond, 1974/2002; Meyer, Oshiro, Mayer, & Starling, 2008). The RE-HSE-P was validated and it has been employed in characterization studies (Bolsoni-Silva & Marturano, 2008) and as a pre and post-test measure at interventions (Bolsoni-Silva & Marturano, 2010) being effective in differentiating groups with and without problems. It has also being used in the identification of behavioral patterns of parents and children after intervention, by functional analysis.



The term functional analysis contains different definitions (Meyer, Oshiro, Mayer, & Starling, 2008) and it was elaborated from the Experimental Analysis of Behavior. For the clinical context it reinforces the relevance of evaluating several behaviors and multiple causes, considering antecedent variables (environment), response (reported or observed behavior) and consequent (events which occur after the answers). Considering parents-children interactions the consequent variables constitute the children's behaviors towards the parents' behavior and vice-versa (Goldiamond, 1974/2002).

In order to compare the parental educational social skills of two groups of mothers (one of children with hearing loss, and the other with hearing children without any behavior problems or other disorder) the RE-HSE-P was employed.

Differences were found between the clinical and nonclinical population, in relation to parental educational social skills (ESS-P), the infantile social skills, and the contextual variables. There were no differences between the groups in relation to negative practices and behavior problems. However, there were no evaluations for the sub-categories of the following behaviors: communication, expressiveness and the establishment of limits (Bolsoni-Silva, Loureiro & Marturano, 2011). Describing them may help in the identification of behavior which can be focus of rapid interventions without neglecting other needs of the studied population. Therefore, additional analyses must be performed comparing the interactions established between parents and children from the hearing loss (HL) group and from the nonclinical group.

The present study aims at comparing the quality of interactions established between parents and children, considering two groups: Clinical Group x Nonclinical Group (normative). Specific objectives were to describe and compare behaviors denominated as positive parental practices (Parental Educational Social Skills - ESS-P), negative parental practices (aggressiveness and no assertiveness), infantile social skills, and behavior problems.

## **2. Method**

### **2.1 Participants**

A total of 52 mothers took part in this study whose children presented hearing loss ( $n = 27$ ) (HL Group) or children who were part of a normative/nonclinical sample ( $n = 26$ ) (Normative Group). The children with hearing loss (HL) used Hearing Aids (HA - AASI Aparelho de Amplificação Sonora Individual) and had hearing parents. They were identified at CEDALVI/HRAC/USP (Center of Hearing, Language and Vision Disorders, in the Hospital for the Rehabilitation of Craniofacial Anomalies, at University of São Paulo, Bauru, São Paulo, Brazil). The normative/nonclinical sample ( $n = 26$ ) comprised two studies: the first evaluated the effectiveness of an intervention procedure (Bolsoni-Silva, Salina, Versuti & Rosin-Pinola, 2008) and the other evaluated the parental practices of separated/divorced mothers (Boas & Bolsoni-Silva, 2010).

### **2.2 Inventory**

The Roteiro de Entrevista de Habilidades Sociais Educativas Parentais (Interview Guide of Parental Educational Social Skills) - (RE-HSE-P - Bolsoni-Silva, Loureiro & Marturano, 2011)

was used. It evaluates the occurrence and the quality of social skills applicable to educational practices and behavior of children, contingent to: starting conversation, asking questions in general (*Communication*), expressing positive and negative feelings and opinions (*Expressiveness*), affection, situations and strategies used to establish limits, identify children's behavior, what he/she likes and dislikes, accomplish promises (*Limits Establishment*). In total the inventory comprises 70 items and comprehends alpha of 0.846. They are organized into two factors: positive and negative interaction characteristics. The positive interactions are: educational social skills and infantile social skills. The negative ones are: negative practices and behavior problems.

### 2.3 Data collection procedures

Data from HL and normative groups were collected in the clinics. For the normative group the data were collected in their houses and/or at the children's schools. After the consent of the respondent the mothers signed an Informed Consent. The interviews were conducted according to a specific set of procedures. The answers were recorded for further categorization.

### 2.4 Treatment procedures and data analysis

Data were computed according to the given information and organized into previously reported categories. Comparisons were made between hearing loss and normative groups (*t Student Test*).

## 3. Results

The results were synthesized according to three broad categories of RE-HSE-P: *Communication, Expressiveness and Limits Establishment*.

Figures 1 and 2 present, respectively, the results of the participant's mothers behavior of "talking" and "asking" which are part of the *communication* category. Asterisks in the figures correspond to the items with *statistically significant differences*. The bars identify the clinical group and the lines the nonclinical group.

Analyzing the answers to the question "Do you talk to your child?", "What subjects do you discuss?" (Figures 1 and 2), it was observed that both groups talked to their children in order to teach them what is correct or incorrect, mainly concerning externalizing behaviors (especially disobedience and aggressiveness). Notwithstanding, the nonclinical group more frequently than the clinical group talked about different subjects (clinical average 0.63, SD = 0.88; nonclinical average = 1.42, SD = 1.5;  $p = 0.029$ ), and in different periods of the day (clinical average = 0.26, SD = 0.45; nonclinical average = 0.70, SD = 2.11;  $p = 0.002$ ). The children without hearing loss acted positively during these periods. They demonstrated socially skilful behaviors, such as: talking, keeping eye contact, giving attention to the mothers (nonclinical average = 1.81, SD = 1.09). The clinical group also demonstrated social skills (clinical average = 0.89, SD = 0.95), but with a statistically significant difference in inferiority ( $p = 0.001$ ). Both groups sometimes answered with nonskilful behaviors (problems concerning externalizing or internalizing behaviors) during conversations,, with no statistical difference between the groups.

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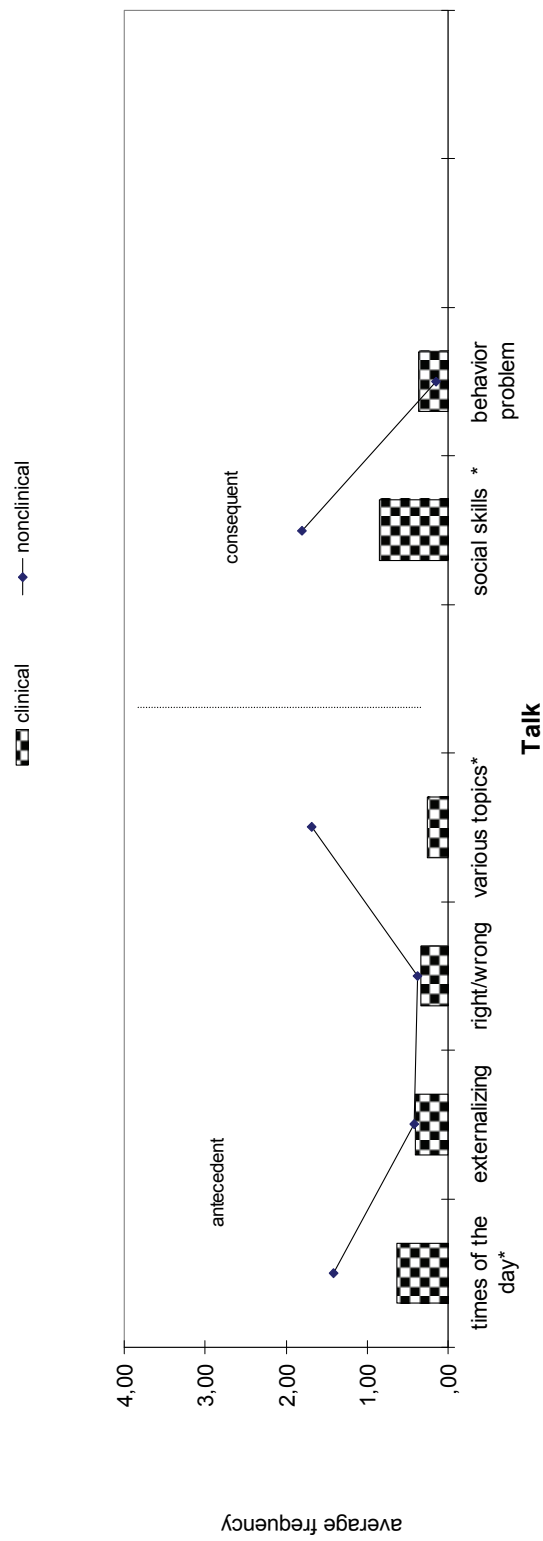


Fig. 1. Average frequency of antecedent variables and behavior of children when the mother talks to them.<sup>2</sup>

<sup>2</sup> The legends for every figure correspond to the ones from Figure 1.



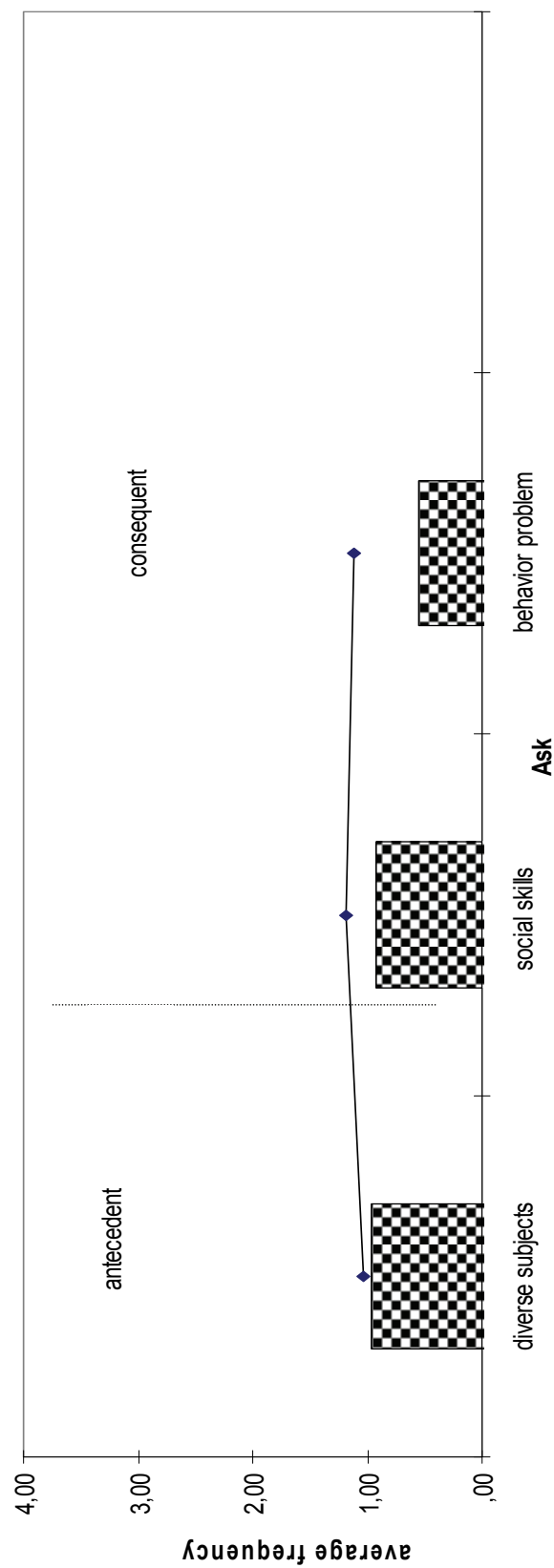


Fig. 2. Average frequency of antecedent variables and behavior of children when a mother questions them.

When the answer included “different periods of the day” to the question “When”, the mothers reported the following: on the way to school, at night, after arriving from school, during the day, during hygiene care, in all the situations, on vacation, on weekends, late afternoon, at time to get up, during meal times, during homework time, on the traffic, arriving from a trip, arriving from work, when they were together, when going to bed.

As an answer to the question “Which subject?” mothers reported “different subjects” as follows: everyday life, leisure time, usefulness of objects (for instance: pans, brooms), meaning of concepts and objects, something that the child saw, a party, food, animals, plays, cars, father-mother relationship (marriage and separation), drugs, private events involving the mother and the child, personal hygiene, their own body, infantile books, soap operas/ cartoons/television programs, the mother’s job, wishes and interest of the child, the future of the family and/or the child, offer help to the child, dangers facing the world, members of the family, which clothes to wear, religion, health, violence and other questions asked by the child.

About the interactions established for the mothers’ questions the groups did not present differences. Both talked during different situations and sometimes the children answered in a socially skilful manner, and sometimes not.

*Expressiveness* corresponds to a category of parental educational practice and behavior of the children corresponding to four questions of the RE-HSE-P: “Do you express positive feelings towards your child?”, “Do you express negative feelings towards your child?”, “Do you express your opinions to your child?”, “Do you caress your child?”. After each of these questions the respondent was required to talk about the quality of the interventions established between parents and children. The answers to these questions were analyzed and according to the occasions in which they occurred, were denominated as *context variables*. The obtained categories were as follows: in several situations, the mother’s personal problems, treating the environment carelessly, after calling the attention of the child, due to his/her behavior, before something interesting that the child has done, during leisure time and when the child was not feeling well. Another set of categories refers to *features of mothers’ behavior*, present in two classifications of ESSP-P: 1. Communicates and expresses feelings and coping and, 2. Negative educational practice (beating, shouting). The last set of categories refers to *features of the children’s behavior* contingent to the mother’s, described as skilful behavior and behavior problem (internalizing and externalizing). The results of the questions about “positive feelings” are demonstrated in Figure 3.

The ESS-P “Communication to express positive feelings” refers to the parents’ behavior of expressing tenderness in relation to the child or the child’s appropriate behavior. The ESS-P “Expresses feelings and coping” refers to: touches the child, plays, hugs and kisses. The comparison between groups shows that the clinical group expresses feelings less in a “communicating” way than the nonclinical group (clinical = 1.15, SD = 0.71; nonclinical average = 2.31, SD = 1.59;  $p = 0.002$ ). The groups equally “express feelings and coping”.

Figure 4 presents “Tenderness expression” for each group. It can be observed that the groups express tenderness towards good behaviors equally in leisure situations and when the child is not feeling well, specially the nonclinical group (clinical average = 0.04, SD =

0.19; nonclinical average = 0.35, SD = 0.63;  $p = 0.023$ ). In these situations, the mothers of children without any deficiency are significantly more dedicated (clinical average = 0.04, SD = 0.19; nonclinical average = 0.35, SD = 0.63;  $p = 0.023$ ) and as consequence, their children correspond more intensely to the expression of tenderness (clinical average = 0.04, SD = 0.19; nonclinical average = 0.35, SD = 0.63;  $p = 0.003$ ).

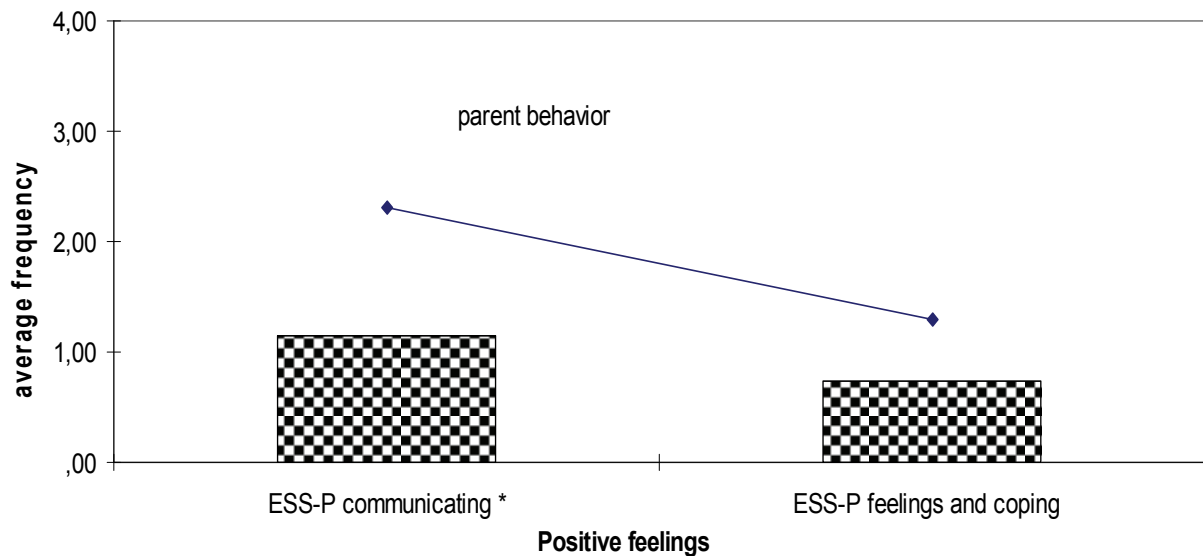


Fig. 3. Average frequency of how mothers express positive feelings to the children.

Figure 5 shows that both groups express opinions about different subjects. Nonetheless, the children from the nonclinical group behaved more frequently according to the category “Expression of feelings and coping” (clinical average = 0.48, SD = 0.51; nonclinical average = 1.15, SD = 1.00;  $p = 0.004$ ). Some examples of how the child behaves are: hugs, accept the adults’ opinion, thanks, gives support to parents when they are sad, gives his/her opinion, and explain his/herself.

Figure 6 presents the context and the mothers’ and children’s behaviors when mothers expressed negative feelings. Both groups expressed these feelings when they had personal problems, when were in dangerous environments, faced optimal behaviors of children, discussed several subjects and also after reprimands. Nonetheless, the nonclinical group used more negative educational practices (clinical average = 0.30, SD = 0.54; nonclinical average = 1.50, SD = 1.53;  $p = 0.004$ ) in addition, these children expressed affection in these moments more frequently (clinical average = 1.11, SD = 0.89; nonclinical average = 2.08, SD = 1.62;  $p = 0.004$ ).

The following examples can be considered as negative practices: verbal and/or non verbal threatening (deprive of privileges, beating), punishment (grounding), tightening the arm of the child, beating, shouting, fighting, getting nervous, calling names, talking a lot, saying “no” without explaining the reason, saying that will exchange the children for other ones, accusing/criticizing the spouse’s behavior, cheating, imitating the incorrect behavior of the child and depriving the child from something he/she likes.

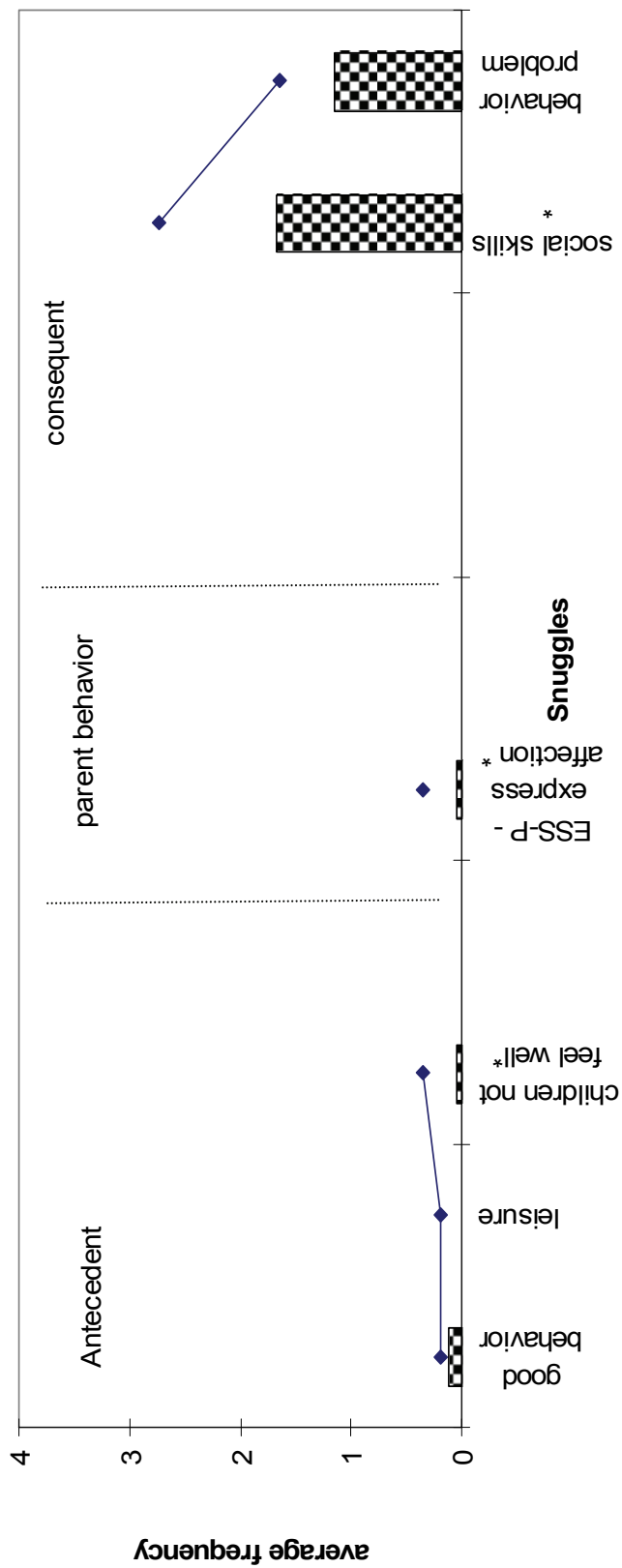


Fig. 4. Mean frequency of antecedent variables when mothers cuddled and behaviors of children in these interactions.

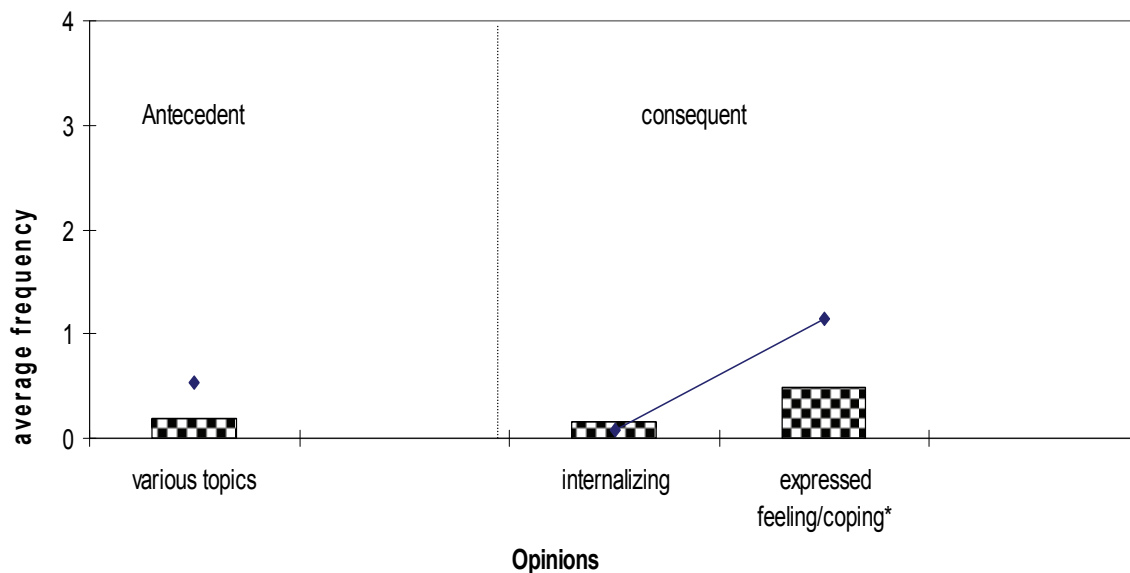


Fig. 5. Mean frequency of antecedent variables when mothers expressed opinions and behaviors of children in these interactions.

*Establishment of limits* consisted in another category of educational practices and children's behaviors corresponding to four questions of the RE-HSE-P: "Why does it become important to establish limits?", "What do you do to establish them?", "Does your child do things that you like?", "Does your child do things that you do not like?" After each of these questions the respondent is required to talk about the quality of the interactions established regarding the occasions in which they occurred, the type of the mother's behavior, and the child's behavior in relation to the mother's. The answers from the analyses of content according to RE-HSE-P, were classified into three subcategories: (a) context variables: facing the obedience of the child, teaching what is correct and incorrect, having control of the behavior of the child, protecting the health of the child, and in leisure environment; (b) mother's behaviors: b1) communicates and expresses feelings and coping and, b2) makes uses of negative practices (beating, shouting, being quiet/not doing anything) and, (c) children's behavior: skilful and behavior problems (internalizing and externalizing).

Figure 7 describes the results of the identification of appropriate behaviors and mothers-children interactions in these situations. Both groups consider as appropriate the obedience of the children, but the nonclinical group statistically highlights the expression of affection of the children (clinical average = 0.41, SD = 0.50; nonclinical average = 0.88, SD = 0.86;  $p = 0.019$ ). Both groups use few negative practices, but do not report positive practices. Possibly in these situations even if the mothers identify the proper behavior they do not reinforce it. The children from both groups demonstrate behaviors corresponding to "expressing feelings and coping".

Figure 8 presents the interactions involved when the child demonstrates behaviors that mothers disapprove. Both groups do not like it when children are disobedient or when they are aggressive. Equally, in these occasions, the groups show behaviors considered as negative practices and, mothers also report that they are feeling bad (sad, angry,

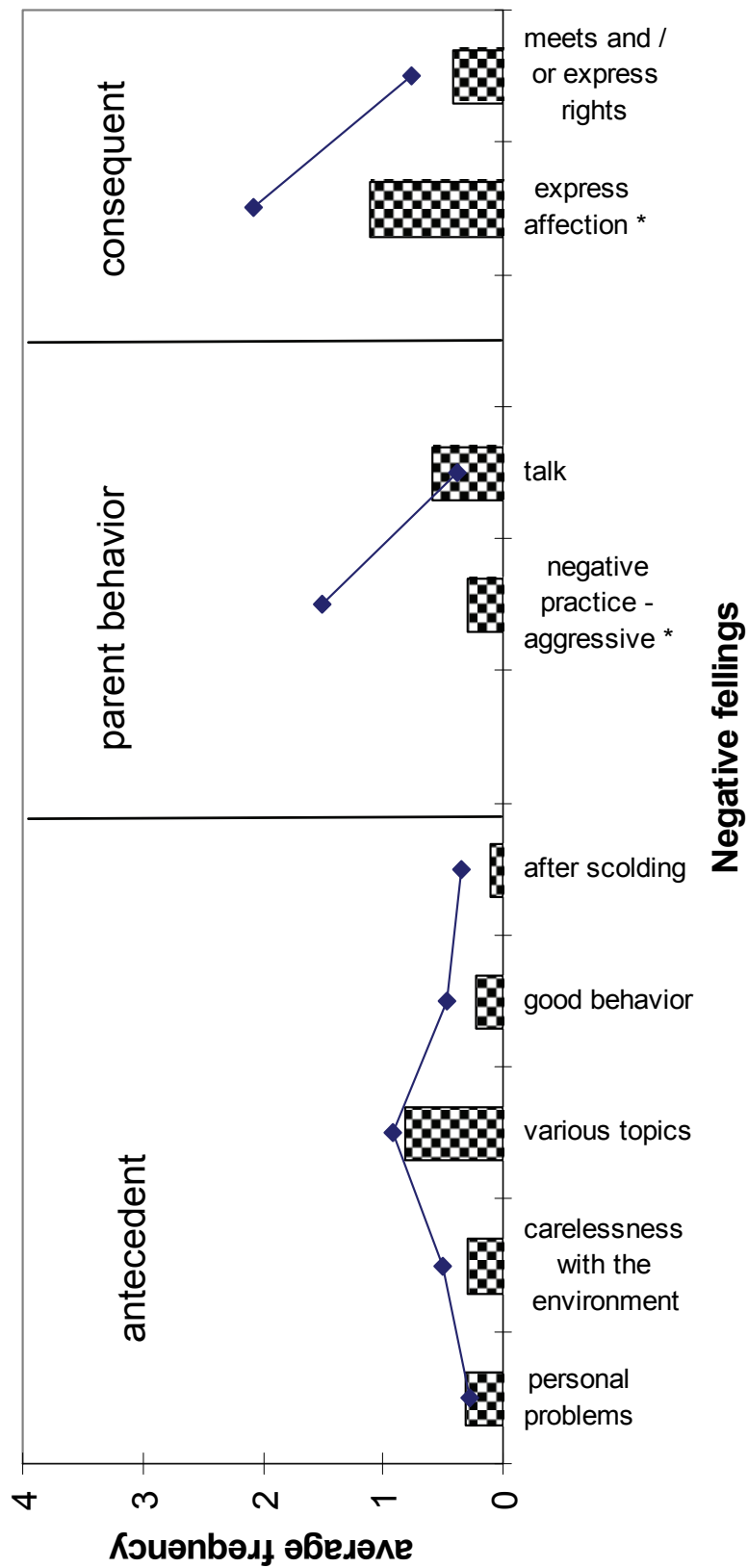


Fig. 6. Mean frequency of antecedent variables when mothers expressed negative feelings and children behaviors in these interactions.



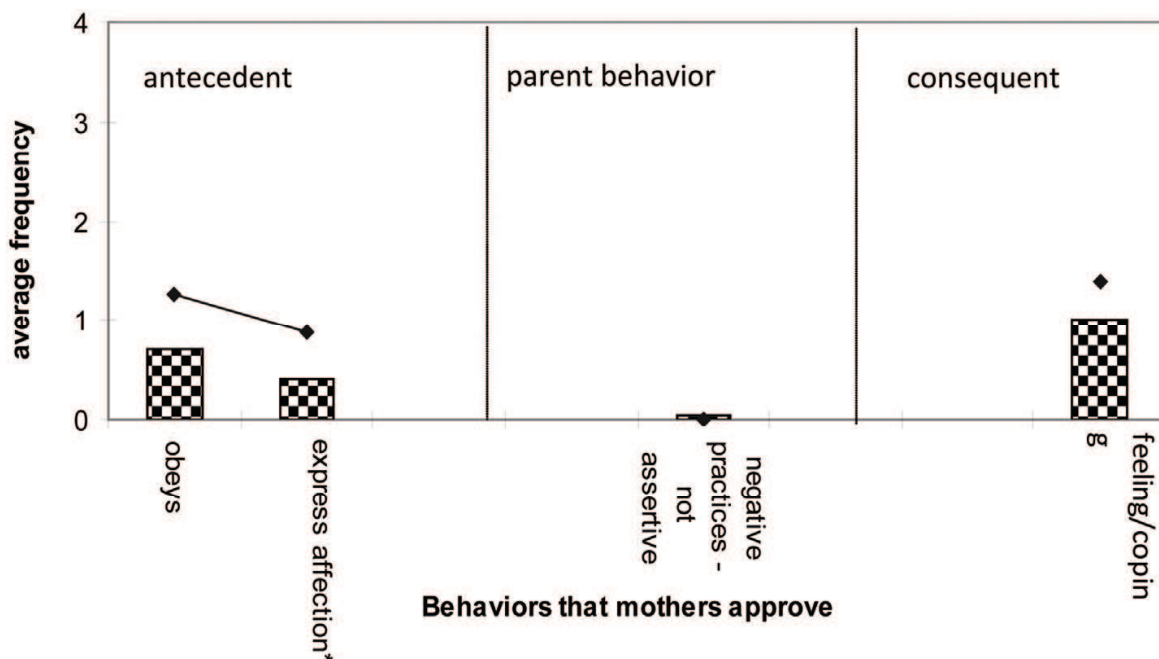


Fig. 7. Behaviors that mothers approve, maternal behaviors, and children's reactions.

disappointed), especially the clinical group (clinical average = 2.04, SD = 0.59; nonclinical average = 1.38, SD = 1.10;  $p = 0.011$ ). Children from both groups obey in the same degree, present internalizing or externalizing behaviors, though, the children with deficiency apologize or give explanations more frequently (clinical average = 0.15, SD = 0.36; nonclinical average = 0.81, SD = 1.02;  $p = 0.004$ ).

Figure 9 describes the reasons given by the mothers to establish limits, their behaviors and the behaviors of their children. It can be observed that mothers from both groups consider important the use of limits establishment to teach children how to behave correctly and safely according to social standards during meals and plays.

However, the nonclinical group, more than the hearing loss group, emphasizes intensely that it is important to establish limits in order to have control over the child's behavior (clinical average = 0.22, SD = 0.42; nonclinical average = 1.35, SD = 1.32;  $p = 0.000$ ), to teach social relationship rules (clinical average = 0.07, SD = 0.27; nonclinical average = 0.46, SD = 0.86;  $p = 0.036$ ) and when the child treats their belongings and the environment carelessly (clinical average = 0.37, SD = 0.63; nonclinical average = 0.92, SD = 1.16;  $p = 0.039$ ).

Mothers of both groups reported that they demonstrated behaviors denominated as positive and negative educational practices, and informed that they felt fine behaving this way. Likewise, in these situations, the children demonstrated behaviors considered as problems, such as disobedience and aggressiveness.

Figure 10 shows global results comparing both groups. In Figure 10 it can be observed that mothers of the nonclinical group reported that they behaved in a social skilful way (clinical average = 6.07, SD = 2.05; nonclinical average = 10.31, SD = 3.78;  $p = 0.000$ ) as did their children (clinical average = 5.70, SD = 2.30; nonclinical average = 11.00, SD = 4.72;  $p = 0.000$ ).

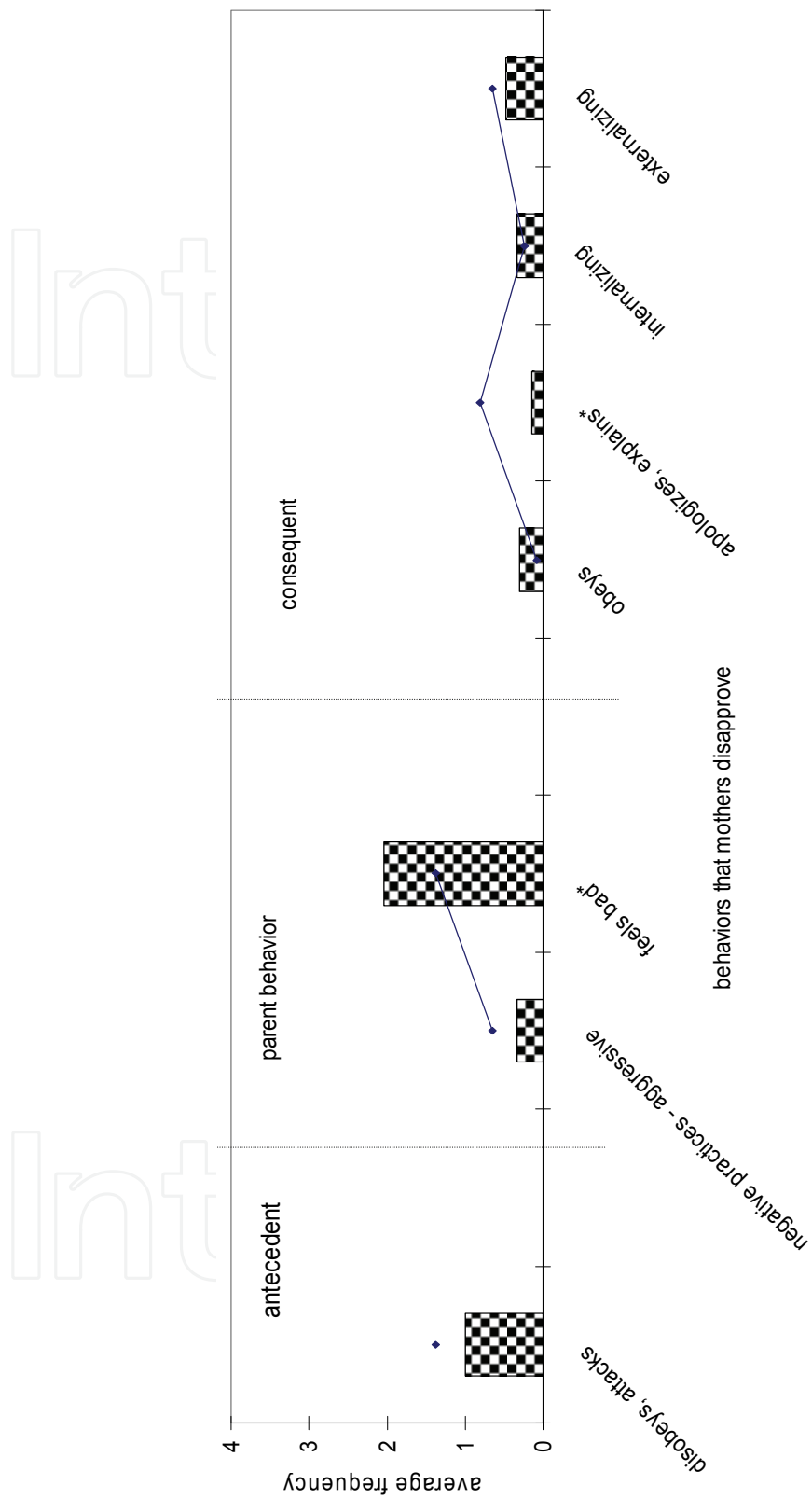


Fig. 8. Children’s behaviors that mothers disapprove, maternal behaviors, and children’s reactions

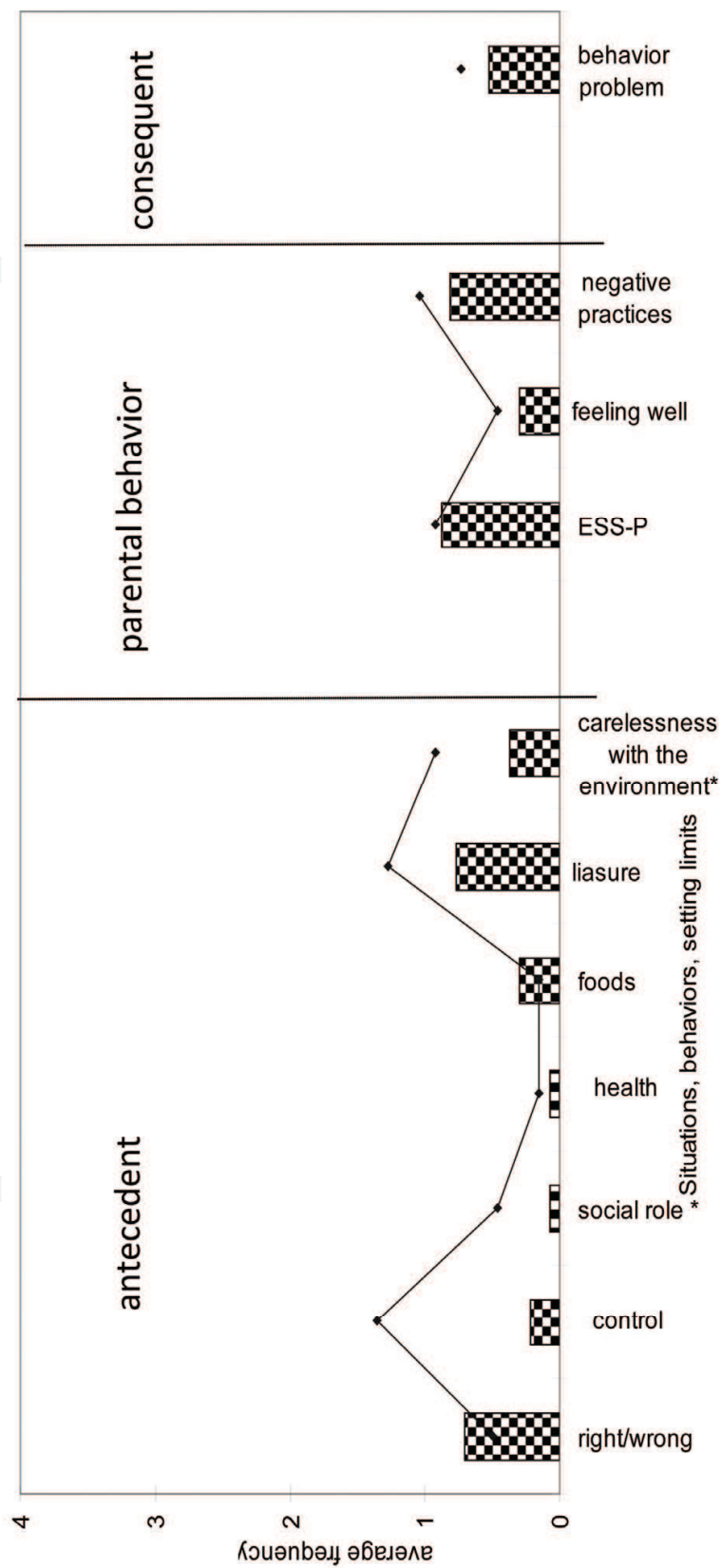


Fig. 9. Frequency of previous situations, maternal behaviors, and reactions of children before setting limits.

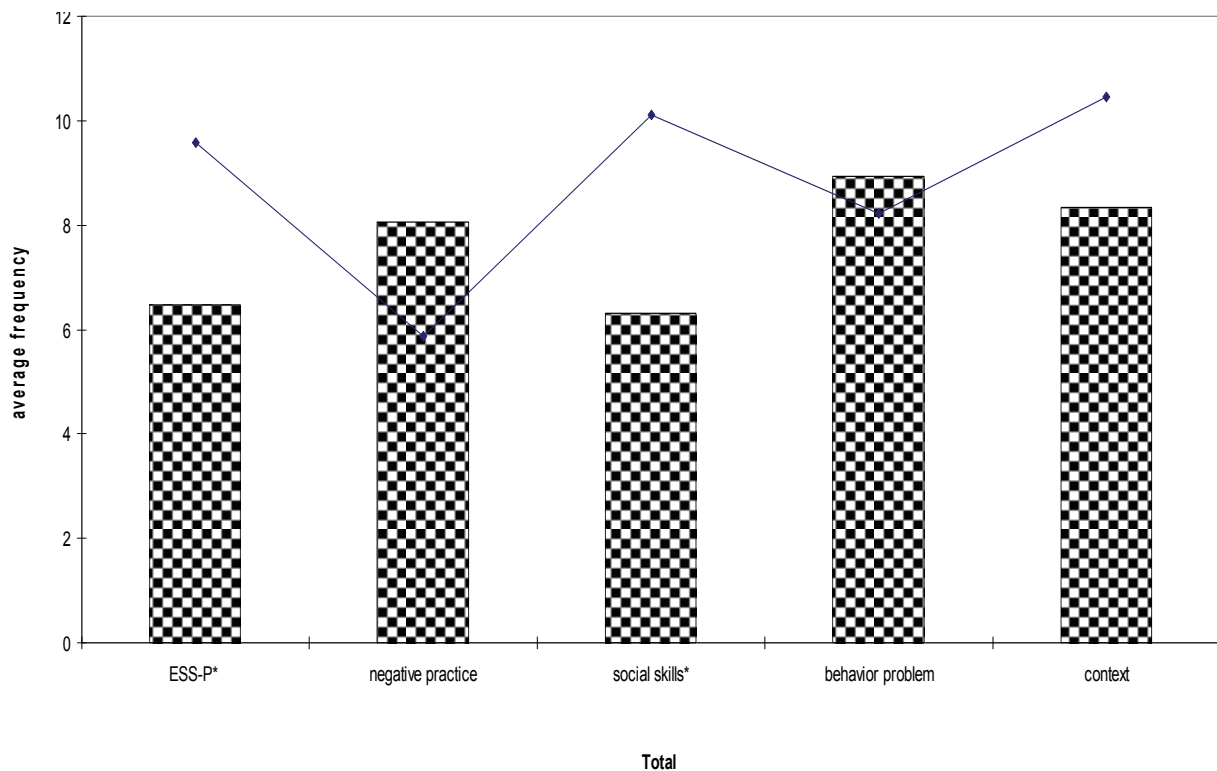


Fig. 10. Categories totals of RE-HSE-P.

#### 4. Conclusion

The quality of interactions established between mothers and children with hearing loss were positively correlated with the social skills of the children and with the context variables. The results indicated that the interactions established between mothers and children favor the acquisition and maintenance of the social skills repertoire. For the hearing loss group both mothers and children presented a poor social skills repertoire in comparison to the normative group.

As for *Communication*, the HL group, when compared to the normative group reported talking to their children less frequently about subjects of their interests and in fewer social contexts. In these occasions the HL children presented poor social skills behavior.

Regarding *Expressiveness*, it was observed that the mothers of the normative group expressed affection and praised more frequently than those from the HL group. The children who belonged to the normative group again presented more social skills than HL group. On the other hand, mothers from the HL group used less punishing strategies for education when compared to the normative group.

For *Limits Establishment*, it was observed that mothers of children with hearing loss identified fewer approved behaviors when compared to the normative group, and children were less obedient.

When parents establish limits children of the normative group apologize and/or offer explanations (social skills) more frequently than children with HL.

Parents establish limits in order to teach their children society rules, and also to deal with children carelessness behaviors towards their own belongings and those at home. The mothers of the normative group recognized mostly that they acted incorrectly concerning the children education, qualifying "incorrect behavior" as beating and shouting (negative practices).

A hypothesis for the differences between the clinical and nonclinical groups could be related to the absence of oral expression of children with hearing loss. The mothers can communicate with their children, but, as the children do not have access to the spoken content it impairs the acquisition and maintenance of the social skills repertoire. The intervention programs which advise families on how to interact with their children must consider this aspect and propose an additional training, in order to guarantee more communication between parents and children. The results seem to suggest super protection (Gargiulo, 2003) from the mothers of children with hearing loss, considering that they establish few limits for the behavior of their children. The hypothesis of the study was partially confirmed. Children with hearing loss and their mothers reported fewer social skills. However, they did not present more behavioral problems than the normative population.

The results also showed a connection between positive parental practices and infantile social skills. It was observed the reduced use of negative practices and absence of behavior problems (Patterson, Reid & Dishion, 2001). The nonclinical group reported statistically lower incidence of negative practices. In both groups there was low occurrence of negative practices and behavior problems.

The RE-HSE-P (Bolsoni-Silva, Loureiro & Marturano, 2011) was useful to add some knowledge about interactions between mothers and children with hearing loss. In regard to social skills it has also favored the identification of behavioral patterns, specific for this population that indicated more behavioral deficits.

The results also emphasized the fact that many times mothers of children with hearing loss behaved just like the mothers in the nonclinical population. Some of the similar practices were: talking about several subjects, expressing affection, establishing limits, and facing behaviors that they did not approve. Children from the HL group also demonstrated social skills. Both parents and children need to have their social skills repertoire improved, but it becomes necessary to consider behaviors which are already present on their repertoires (Goldiamond, 1974/2002).

The externalizing and internalizing behaviors which were reported by the hearing loss group are insufficient to consider that the children have disruptive problems (APA, 2006). In addition, both groups present interactions which are classified as behavior problems. They could be avoided if the mothers learned how to reinforce (praise, thank) the good behaviors.

Studies about social educational skills show that talking to the children about several subjects, especially the ones of their interest in different situations promoted social skills and reduced the probability of behavior problems (Bolsoni-Silva, Loureiro, & Marturano, 2011). In the present research such behaviors were less frequently observed during interactions with hearing loss children, which possibly favors the children's poor repertoire of social skills.

These results are in accordance to the field literature which affirms that for this population there is a great difficulty in communicating (Boscolo & Santos, 2005). Other authors have also found out that mothers of children with hearing loss are less spontaneous than with normative children (Brito & Dessen, 1999). Additionally, mothers of children with hearing loss are less involved in their development, being more concerned in taking basic care rather than talking to them (Canho, Neme & Yamada, 2006). However, the results of the present research do not prove that low repertoire of social skills is associated to behavior problems, a finding in agreement with some other studies (Cia & Barham, 2009; Gargiulo, 2003).

For efficiently talking to children with hearing loss mothers are required to know sign language. Due to its additional cost they avoid learning it, impairing the promotion of better interactions and consequently the development of children's social skills (Lacerda, 2003; Negrelli & Marcon, 2006). Affection expressing behaviors are also less frequent in the clinical group. Children tend to see their mothers as models. When they are not affectionate they favor this deficit in their children.

In relation to limits establishments it can be observed that mothers of children with hearing loss used fewer negative practices than the normative population. Considering the results expressed in Figure 8 it can be observed that children from both groups disobey; that is a reason for mothers to establish limits. It can also be noticed that the mothers talk to their children with hearing loss who on their turn obey and justify themselves when behaving improperly.

Overall, the results of the present research confirm the findings of previous studies, concerning educational practices (little communication and little affection expressions) with children social skills deficits (Rodrigues, Carrara, Palamin & Bolsoni-Silva, 2010; Bolsoni-Silva, Rodrigues, Abramides, Souza & Loureiro, 2010).

Mothers of children with hearing loss are less equalitarian and spontaneous than with other children, besides being more restricting and controlling (Brito & Dessen, 1999). Data from the present research do not allow affirming about different practices, considering siblings with or without hearing loss. The results show that the mothers of children with hearing loss seem to establish limits in a skilful manner (talking) and that their children obey and express themselves similarly to the normative population.

Intervention procedures with this population should teach the importance of affection and communication, not only for the care, or to determine limits, but also in other situations of interest for the child. It is important to teach the social skills repertoires. The more skilful the mothers, the more skilful the children will be (Bolsoni-Silva, Loureiro & Marturano, 2011).

Skilful behavior is not always easy to achieve considering that mothers are frequently overloaded with chores. The Brazilian literature has pointed to the cultural aspect present on interactions between parents and children, in which the interaction of mother-children are the most studied, indicating aspects in their practices as more restricting and controlling, associated to anxiety and anguish patterns (Brito & Dessen, 1999; Oliveira, Simionato, Negrelli & Marcon, 2004; Guarinello, 2004; Dias, Rocha, Pedroso & Caporali, 2005). Nevertheless, studies with fathers have not been frequently developed (Brito, 1997; Canho, Neme e Yamada, 2006), taking into consideration its important role on the children's development. An early counseling and follow-up are extremely important as a mean of



improving the interaction between father and child (Marchesi, 1996; Bisol, Simioni, and Sperb, 2008; Smith, 2008).

In conclusion, studies comprising children with hearing loss and their families have shown the necessity of preventive actions and early identification of the child's condition. This permits parents orientation, the involvement into alternative forms of communication with their children insuring their development, and reducing the possibility of behavior problems. However, it is mandatory for the parents to develop educational practices such as: expression of feelings, establishment of limits, in addition to praising and reinforcing their children's appropriate behaviors.

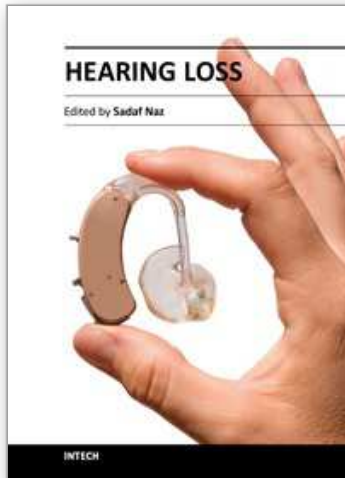
Studies concerning the interaction between the dyads father-child and mother-child specially with hearing loss are necessary and urgent. It's important to give special attention to children since preschool up to school age creating a fertile and promising situation for optimal parents-children interactions and thus promoting the development of the child with hearing loss.

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## **Hearing Loss**

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Authored by 17 international researchers and research teams, the book provides up-to-date insights on topics in five different research areas related to normal hearing and deafness. Techniques for assessment of hearing and the appropriateness of the Mongolian gerbil as a model for age-dependent hearing loss in humans are presented. Parental attitudes to childhood deafness and role of early intervention for better treatment of hearing loss are also discussed. Comprehensive details are provided on the role of different environmental insults including injuries in causing deafness. Additionally, many genes involved in hearing loss are reviewed and the genetics of recessively inherited moderate to severe and progressive deafness is covered for the first time. The book also details established and evolving therapies for treatment of deafness.

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