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Resilience factors in families of children with hearing impairment¹

Abstract. The aim of the research was to identify and describe the function of resilience factors in families of children with hearing impairment. The research sample included 54 families. The definition of time data, the time interval between the first parents' suspicion and completion of the diagnostic process and the time interval between the diagnosis and provision of first compensation aid, may be seen as the most significant outcomes. The results show that stability and pro-social elements are not affected by the structure of the family, nor by the educational level or religiousness of the parents. Moreover, it was demonstrated that the communication burden affecting the family of a child with hearing impairment is lower in children whose parents became aware of the hearing deficiency at the child's lower age, and significantly lower if the hearing impairment was diagnosed before the 12th month of the child's age. In terms of the social impact of the child's hearing impairment on the family it was demonstrated that the income level significantly affects the impact of the child's hearing impairment on social life, and also that the religiosity of parents has no effect on eliminating the negative perception of the hearing impairment.

Key words: hearing impairment, resilience, social impact

INTRODUCTION

Family is regarded as a basic element of society and historically this approach has remained unchanged within the European cultural context. In their dictionary, Pavel Hartl and Helena Hartlová (2000) offer a characteristics of a family from the psychological point of view and describe it as a group linked through marriage or blood relationships, mutual responsibility and assistance. *The Dictionary of*

Pedagogy by Jiří Mareš, Jan Průcha, Eliška Walterová, (2003) defines a family in terms of its structure and width. Some other authors have noted that it is difficult to find a consensus regarding the definition of resilience (e.g. Kinard, 1998). In such a situation, to compromise, a group of relevant meanings associated with resilience can be used. For the purpose of this research the following functional definitions were used: "The path a family follows as it adapts and prospers in the face of

stress” (Hawley, DeHaan, 2003); “the capacity to rebound from adversity strengthened and more resourceful” (Walsh, 2006). In accordance e.g. to Suniya S. Luthar, Domenc V. Cicchetti, Bronwyn Becker (2000) two main parameters must be present: 1) a significant threat and 2) positive adaptation. Peter Fonagy defines resilience as: “normal development under difficult circumstances” (Fonagy *et al.*, 1994, p. 223). Another definition is offered by Deborah Ghate and Neah Hazel: “the ability of some individuals to maintain healthy functioning in spite of a background of disadvantage commonly associated with poor outcomes” (Ghate, Hazel, 2002, p. 15).

As specific functions the authors mention the establishment of emotional climate, transfer of values and formation of values (e.g. Potmesil, 2010), attitudes, lifestyle and other factors. The philosophical perspective of a family and its importance have been based on the development of society and current knowledge. In his short historical overview, Arno Anzenbacher (1991) draws on Aristotle – EN VII, 14,1162a (Anzenbacher, 1991, p. 194). Similarly, in his perception of a family, Georg Wolfgang Friedrich Hegel (Anzenbacher, 1991, p. 194) is cited as an author emphasizing the presence of a child as the uniting element; he points at the natural unity of this formation and, in terms of importance and time, puts family before society. It means that a family has been historically understood as an emotionally and relationship-wise coherent unit able to provide its members with protection and resistance against external forces. If a family is seen in the context of its own resilience, then the perspective of “the other side” may be applied. In order to describe crisis intervention focused on a family, Daniela Vodáčková *et al.* (2007) define stages in the development and areas of family life that are, in terms of crisis intervention, sensitive or fragile. For the purposes of this paper, the respective stages may be used as a basis, after Vodáčková, and could be defined as follows:

1. married couple without children – from mutual devotion to preparation for parenting;

2. family with children – specific period, typically with the birth of the first child followed by other children;
3. family with a child of pre-school age – defining space for individual family members, introducing the child to institutional care;
4. family with school children – school responsibilities affecting the family life as a limiting factor to individual activities of parents and to common activities;
5. family with adolescents – acceptance of a maturing individual during the most turbulent time, acceptance of experiments, search for independence and testing of different roles;
6. family sending young adults into the world – related to the empty nest syndrome, represents a significant burden on the family and brings the necessity to look for a new balance, forming and functioning of relationships;
7. middle-aged parents – acceptance of the “empty nest” status;
8. ageing family members – retirement, uncertainty about the future, economic and health uncertainty and old age – factors forming a comprehensive phenomenon deserving closer attention with respect to a possible threat to family resilience.

Family cohesion and family climate are under increased pressure in terms of the child/children development, frequent episodic presence of transitory crises, and occurrence of physical or mental disorders, crises of parents’ marriage and later of children’s marriages. In the given examples it is necessary to search for resilience as a form of the family’s response to critical situations and the ability to respond in such a way.

The entire psychology of human resilience includes a theory of mechanisms and processes used by a person to cope with changes in the external environment. Karel Paulík (2010) studies human resilience in a well-arranged manner and with respect to a family. In that matter a family demonstrates its resil-

ience upon having been exposed to a stressful situation and the resilience rate is demonstrated by the form and consequences of the solution chosen. Further, the author focuses on four factors of family resilience, refers to Irena Sobotková (2007, p. 67) and further describes the following factors:

- protective – family rituals, communication within the family, time spent together, family hardiness, harmony in personal characteristics of the family members – focus on resilience against specific threats and risks or accumulation of stressors;
- restorative – optimistic tuning of a family, family cohesion, self-confidence, feeling of control over actions and events in family; these factors affect the level and success of adaptation under critical situations;
- general resilience factors – here they are seen as superior to those mentioned above and include optimism, spirituality, truthfulness, hope, health, social support, time spent together, routine activities, flexibility and family hardiness.

The described factors may be defined, with regards to their functionality rate, as a set directly affecting the level of defensive-resilient mechanisms. Once again the strength and efficiency of the internal coherence of a family is demonstrated. Iva Šolcová (2009), with regard to the family, starts from the family resilience concept and studies the levels of family awareness that she considers critical. They include the following:

- situation awareness – the ability of a family to assess the level of pressures and strength and efficiency of the potential responses;
- family identity – defined as a self-reflection ability of a family as a whole;
- family perspective of the world (ideology) – based on which the links and relationships between a family and the external environment are constituted.

To diagnose family resilience, Šolcová (2009), similarly to Vaclav Břicháček (2002), presents a scale of protective factors, several

of which have already been mentioned here. They include family cohesion, flexibility of family roles and relationships, as well as comprehensible and open communication between all family members. Specific abilities, skills and willingness are also needed to address and overcome conflicts and critical situations. Břicháček (2002) defines family resilience as a harmony of internal family processes together with a combination of social and natural development characteristics and human experience. A paper published by Jan S. Novotný (2010) contributes to this issue. The author offers a critical analysis of the notion of resilience. There appear some ambiguities since resilience, currently envisaged as a multifactor complex with its own dynamics and varying valence of external relations, is subject to terminological instability and disunity. In the case of resilience of families with a handicapped child, Novotný's reflection on the dual approach to resilience is important. One approach concerns the result of exposure of an individual or a family to adverse conditions and the level of mental processes' functioning and conditional factors. The other approach regards resilience rather as a result of linkage between the factors and processes establishing the level of resilience (in our case, of a family). For future reflection related to this study it is also important to mention the third premise of the same author - it concerns the cultural specificity of resilience.

When looking for a definition of resilience, Šolcová (2009) goes through the initial stages of definition formation focusing on personality prerequisites – i.e. an ability to cope with ill-fortune and subsequent stress. By studying the sources, she sees resilience as a multilevel phenomenon resulting from a dynamic action of internal and external factors.

Pauline Boss (2001, p. 193–212), referring to Emory L. Cowen, Peter A. Wyman, William C. Work, Gayle R. Parker (1990), provides a definition of family resilience that is considered the most suitable for the purposes of this paper: "Resilience means a situation in which individuals or families show such physiological fitness, mental invention and interperson-

al relationships, enabling them to successfully respond to serious situations, and use the experience gained as their potential for future situations.”

Subsequently, in compliance with others, such as Ann S. Masten, Mary J. O'Connor (1989), it is recognized that the potential for resilience may entail genetic elements together with environmental reflection, demonstrating permanent influence.

It is also practical to mention the thesis by Michael Luthar *et al.* (2000) saying that resilience changes over time and is not formed by removing the risks but it is a result of previous successful coping with other challenging situations.

In their research, Michael Ungar and Linda Liebenberg (2009) expressed their opinions as to resilience as a phenomenon with global aspects. They verified a hypothesis that there are global aspects of resilience reflecting the cultural diversity of various groups of people, and simultaneously they demonstrated that due to this fact there are differences in understanding resilience and its form. Linda Wilmschurst and Alan W. Brue (2005) relate resilience or efficiency of coping to the parents' community and identify the most important factors: lack of control or lack of choice, restrictions in the concept of future, acceptance of personal responsibility and summoning up all the strength for an unreasonably long time. They use two extrapolations – “fight or flight” – describing either aggressiveness and anger or depression and escape from the situation.

In their monograph, Marie Vágnerová, Iwa Strnadová and Lenka Krejčová (2009) study the family burden resulting from having a child diagnosed with a handicap. The authors searched for the most sensitive element of this process and very rationally summarized the most significant external factors with the strongest influence on the efficiency and speed of coping techniques. As the strongest negative factors they mention the following: fear about the child's life, high level of uncertainty, lack of information about the child's current condition and development prognosis.

A CHILD WITH A HANDICAP IN A FAMILY

In general, the presence of an intact child in a family brings stress which is unevenly spread among the other family members. Irena Sobotková (2007) describes in detail the relationships within a family as a system and discusses systems and subsystems.

If a child suffers from a handicap, the situation should be considered in a significantly broader way. M. Vágnerová *et al.* (2009) provide detailed data related to this issue and their statements are supported by research upon the experience and ability to cope with a stressful situation by mothers of children with brain paralysis and mental retardation. They speak of a life crisis, starting when the diagnosis is confirmed. Even the psychoanalytical concept of birth of a handicapped child (Matoušek, 2003) is applied, as the “narcissistic trauma of a mother” while identifying herself with the child takes over the stigma of inferiority.

A child with a handicap brings to his/her family a completely unexpected and initially uncontrolled burden. The level of impact demonstrates certain dynamics over time, similarly to the gradual development of mechanisms applied by the family to cope with this burden. To this issue, Pauline Boss (2001) mentions that the burden of existence of a child with a handicap in a family is comparable to head injuries resulting from accidents. It concerns changes in beliefs, values and self-accusation of parents in the context of insolubility, difficult acceptance and lack of logic. Abraham Greeff and Ayesha Wentworth (2009) explored the decisive factors of coping with stressful situations in families and as one of the most efficient they describe the relationships within a family and the relations between individual members. Alex Zautra *et al.* (2008) demonstrated the complexity of the situation and specified topics for multilevel analysis focused on resilience. The levels analysed include biological, psychological and social levels and structure of support by the society. These levels will also be applied in our research. Mo Yee Lee, Gilbert J. Greene, Kai

Shyang Hsu, Andy Solovey, David Grove, Scott J. Fraser, Phil Washburn, Barbara Teater (2009) explored the strengthening of family resilience under family therapy and demonstrated a positive effect of family intervention performed in a safe environment. This knowledge may be generalized and applied to the majority of families with a disabled child.

RELIGIOSITY AND RESILIENCE

Spirituality, faith, spiritual life and living a faith – these are terms closely related to religion or religiosity. This paper does not analyse any theory of faith as part of human life, but the work of P. Boss (2001) may be used as a starting point; Boss mentions spirituality as one of the main pillars of managing stress in a family. A similar approach is seen in the work of Andrew P. Tix and Patricia A. Fraiser (1998), who consider faith to be the most important mechanism of the coping strategy. In the same work, Boss points out the fact that spirituality, faith and religion may not always represent the source of positive coping. Outcomes of researches are provided, mentioning mothers living in faith and religion but staying at home with their religion and prayer and expressing a great level of depressiveness and stress. Similarly, Ashum Gupta and Nidhi Singhal (2004) provide a similar characteristics of support given by faith and religion under challenging situations in families. And the presence of a disabled child in a family definitely represents a challenging situation. Vidhya Ravondranadan and S. Raju (2007) also report significant differences in the level of positive influence of religion on family resilience. They also point out that even within a group of believers there are differences in the level of support, based on the type of denomination. Bruce Bain (Bain *et al.*, 1997) underlines the importance of religiosity to family resilience. The author believes that at times of crisis and stress faith supports family cohesion and stability in the same way as a positive attitude to life. A general opinion is provided by Luke Galen *et al.* (2011), who compared

individuals believing in God and those without any belief with respect to their ability to cope with adverse situations; they demonstrated a higher level of this ability in individuals with religiosity. Religiosity is also discussed by Petra Potmesilova (2012), who describes it as an important factor developing typically since childhood and, beside providing a system of values, shaping personality and forming the ability to resist burden situations.

For the purpose of this research, religiosity will be defined as “the embodiment of certain aspects of religious activity.” Religiosity is characterized by active involvement in religious activities. Religiosity reflects individual beliefs and faith.

FAMILY WITH HEARING IMPAIRED CHILDREN

A family with a child with hearing impairment represents a very specific category. The extent to which the impairment affects the family may be monitored with regards to the moment at which the hearing impairment was manifested. Disturbance of the communication ability of a child due to the hearing impairment always significantly affects the life of a family with a common audio-oral and communication scheme. The beginnings of care of a child with hearing impairment in a family are stigmatized by stress for which the parents, and in particular the mothers, are not ready. For instance, in their research Venetta Lampropoulou and Mary M. Konstantareas (1998) include regular daily activities with a child, describe stress factors, and explore the degree of the mother’s engagement. The results of their research list activities with the highest degree of burden (from the top: dressing, playing, bathing and feeding). This clearly demonstrates that all of the activities mentioned above are based on, or at least accompanied with, communication between the mother and the child. Lack of feedback on the part of the child is probably the strongest stressor for the mother. Alex J. Zautra, John S. Hall and Kate E. Murray (2008) have studied

resilience as a process and determined basic prerequisites for its functioning or rather the degree of functioning. They included personal engagement, emotional maturity and the subjective feeling of well-being. Other theoretical constructs have been introduced by a team led by Alys Young, Lorraine Green, Katherine Rogers (2008). They analysed the orientation of various sources and forms of a family burden in relation to the concept of hearing impairment, which in principle may be analysed in medical and socio-cultural terms. In the case of the medical concept of hearing impairment as a handicap, the resilience mechanisms differ from those related to the socio-cultural concept, which means that the approach to intervention should be different as well.

The most important and most difficult decision to be made by the family of a child with hearing impairment is to determine the communication preference. Such decision needs to be made in a responsible way, as early as possible, and should dispose of plenty of information. This necessary decision about the verbal communication preference takes place at an early age of the child.

A completely new type of burden imposed on a family of a child with hearing impairment is the decision-making process related to possible application of a cochlear implant. During the realized research some of parents were reported about being forced by dealers working for particular company to choose their product. In that way the decision making process of parents in relation to surgery and cochlear implant might be, as a stress situation, increased by the pressure of existing competition between companies which are producing implants.

When parents searched for information, they were exposed to professional information as well as advertisement of companies – having beside real facts also some information directed to impress parents/customers the need of their particular product. At present, this sensory replacement provides state-of-the-art functionality and when compared with the traditional hearing aid, the result is truly sensational.

Gradually discovered and repeatedly confirmed, a certain degree of limitation in com-

munication with the child represents a typical feature of families of children with hearing impairment.

For the sake of comparison, we may look at another environment with similar communication challenges, i.e. families of children with autistic spectrum disorder, which has been studied in terms of resilience and coping with stressful situations by Mojdeh Bayat (2007). He searched for evidence of resilience and discovered the great importance of joint action and mutual support within the family, which facilitated the efforts to overcome the ill fortune and gradually change the fixed values and attitudes to life in the course of events.

RESEARCH METHOD

Research objective

The research scope and design were defined in order to describe resilience and its signs in the monitored families of a child with hearing impairment to the most reliable extent. The project's objective was to further describe the factors affecting family resilience and thus provide a basis for the subsequent stage aimed at identifying the methods, forms and efficiency of support provided by special education with regard to the updated needs of families of children with hearing impairment.

Respondents

The target group consisted of families of children with hearing impairment.

Measures

Direct contact with parents by means of a questionnaire and an interview was chosen. Two language versions were prepared – written Czech and the Czech sign language. Only the written version was requested by the respondents.

As part of the research, a questionnaire was compiled consisting of 29 questions with five possible answers: “not true at all – rarely true – sometimes true – often true – always

true.” Each question was constructed as a logical statement, e.g. “I believe learning sign language is of no benefit to my child’s future.” The questionnaire was verified in a pilot study.

Additionally, five open questions were added, e.g. “Write out the biggest difficulty you faced while parenting the child with hearing impairment.”

For statistical purposes some demographic data was collected as well. The questionnaire was administered in compliance with all requirements imposed on handling sensitive information and confidentiality.

Demographic structure of the research sample

Fifty-four respondents participated in the research – 46 mothers and 8 fathers from all over the country. 65% of the respondents live in a city. Out of the total number of the applicants, i.e. 58, four questionnaires had to be rejected due to formal deficiencies.

In sum, 5 respondents completed primary education, 43 secondary education and 6 respondents completed the tertiary level of education. The ages of children with hearing impairment in the monitored families varied from 2 years and 11 months to 14 years. 57% of the sample were boys. Within the monitored group, 65% of the parents are married and 7% live together in one household (with no marriage); the rest are single-parent families. 91% of the children with hearing impairment come from families with hearing parents, which complies with the general trend.

The extent of hearing loss is specified in table 1.

Table 1. Structure of hearing loss

Hearing loss	Rate	%
41–55 dB	3	6
56–70 dB	0	0
71–90 dB	15	28
91–110 dB	11	20
More than 110 dB	21	39
I do not know	4	7

Procedure

The analysis of demographic data provided information about a prevailing number of children who may incline to sign language communication preference (table 2). This result corresponds with the statements of parents regarding the actually preferred communication. Under the item “Please describe the most frequently used method of communication with your child” the respondents provided answers shown in table 2.

Table 2. Communication preference

Preferred communication	Rate	%
Oral	12	25.0
Sign language	18	37.5
Combination of both	18	37.5

In the data obtained, the time span between the first indication of hearing impairment in the family and the diagnosis were monitored. When it comes to age limits, Potmėšil (2003) recommends introducing a value for the biologic age of 0 – (0^b): this is the child’s date of birth; and the age of 0 as information when the child was diagnosed – (0^d), i.e. the time when the conclusion was made and subsequent steps in education and upbringing were proposed. For the reasons explained in detail further in the text, the target is the situation when the time interval between both values is as short as possible. This means that good conditions to initiate special education activities were established.

The obtained results, however, require the introduction of another value – 0^k as the age when the hearing impairment compensation was actually initiated. This is because it was demonstrated that the time delay between the two dates (diagnosis – implementation of compensation aid) is so big that it is necessary to mention and emphasize it. The first signs of hearing impairment, i.e. certain time differences noticed in a family, are shown in table 3.

Table 3. Age of the first sign (report) of hearing impairment

Age	Rate	%
1 st month	16	29.6
2 nd month	16	29.6
3 rd month	14	25.9
4 th month	5	9.3
5 th month	3	5.6

By comparing the values of both sources above the following information is obtained:

The average time elapsed between discovering hearing impairment and the first diagnosis is 22.0 months.

Almost two years of delay between the first suspicion and its confirmation is alarming information, especially in the light of the dynamics of mental development, the development of cognitive functions and communication competences – they all become subject to unnecessary retardation.

Due to the reasons specified above, the last information collected was the moment of re-

ceiving the first compensation aid (it is assumed that in the majority of the cases it was a hearing aid, because the hearing aid must be used before the decision for the cochlear implant is taken). The information obtained shows another alarming result:

The average time elapsed between completing the diagnosis and implementing the first hearing aid is 7.1 months.

Statistical analysis of the collected data

In order to carry out the statistical analysis of the collected data, a factor analysis as described in table 4 was executed.

The factor analysis with varimax rotation determined the factors and their characteristics. Factor 1 concerned stability and pro-social elements. Factor 2 concerned the communication burden. Factor 3 concerned the attitudes of a family to the present and future reality. Factor 4 concerned the socialization of the family. Factor 5 concerned the social impact of the child's hearing impairment on the family.

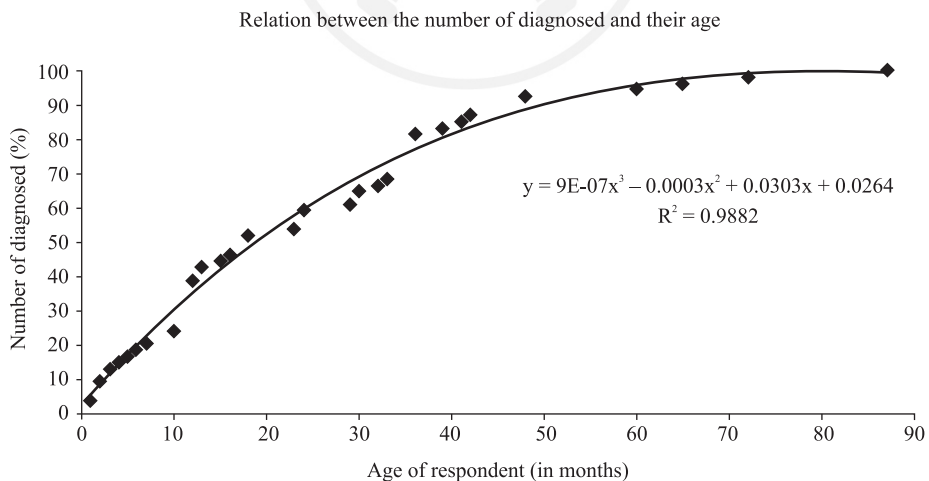
**Chart 1.** The number of diagnosed children at different age levels

Table 4. Results of factor analysis

Evaluated statements		F1	F2	F3	F4	F5
1.	To be a parent of a child with hearing impairment means continuous suffering and sorrow.					0.45
2.	Our family has always suffered from comments made by others that our child is hearing impaired.					0.66
3.	There is no bright future for a child with hearing impairment.	<i>-0.54</i>				0.53
4.	Living with a child with hearing impairment has made me more resigned to my fate.	0.52		<i>-0.34</i>		<i>-0.37</i>
5.	I believe strongly that my family is able to withstand problems with a child with hearing impairment.		0.52			
6.	Strong relationship and mutual support are typical for our family.	0.55				
7.	When I became a parent of a child with hearing impairment the degree of willingness to help others increased.	0.82				
8.	When I became a parent of a child with hearing impairment the degree of tolerance to different people increased.	0.79				
9.	When I became a parent of a child with hearing impairment the degree of my life optimism increased.	0.66				
10.	When I became a parent of a child with hearing impairment I started to feel problems in communication with the child.		0.79			
11.	When I became a parent of a child with hearing impairment I experienced a feeling of exhaustion.		0.76			
12.	Having a child with hearing impairment the financial situation of our family worsened.			0.49		
13.	The support by wider family and other relatives helps a lot.	0.55				
14.	By having a child with hearing impairment my marriage was negatively affected.			0.42		
15.	Bringing up a child with hearing impairment; emotions and rational opinions in our family often clash.		<i>-0.44</i>			
16.	In our family we provide the child with hearing impairment with greater care, attention and protection.			0.39		<i>-0.47</i>
17.	In our family we often work with information about hearing impairments obtained from the experts.				0.61	
18.	For our child we did not face a problem with selecting a special pre-school or regular pre-school for hearing children.				0.52	<i>-0.47</i>

19.	Our family have an opportunity to contact and meet other families with children with hearing impairment.				0.61
20.	I do not believe sign language is of any importance for my child.				0.75
21.	I am sure that spoken speech is the primary objective in educating the child with hearing impairment. I believe that mastering spoken speech is also the primary objective for my child.			-0.73	
22.	The mutual communication between the members of our family was affected by the loss of our child's hearing.		-0.61		
23.	Financial assistance that we get is high enough to cover the specific needs of the child with hearing impairment.				0.51
24.	Our family will do our best to support the child's development in communication and education.				
25.	Since the discovery of the impairment till now, the overall situation in our family has calmed down.	0.83			
26.	Our child does not show any significant development retardation compared to children of the same age.	0.36			
27.	Currently, our family believes that a good future awaits our child and he/she will have a good job in adulthood.		0.33	-0.62	
28.	Having a child with hearing impairment, the relationships in our family improved.	0.70			
29.	Our family is capable of addressing problems and obstacles in the years to come.	0.68			

The following four hypotheses were defined for factor 1 featuring “stability and pro-social elements”:

Parents living together

H-F1-1 The situation of parents living together affects the factor of stability and pro-social elements in the family.

Conclusion: Hypothesis H-F1-1 was not confirmed. The fact whether parents are present in the family does not affect the factor of stability and pro-social elements in the family. The completeness of the family may not be related to the research sample and identified as a decisive factor for stability and presence of pro-social signs.

Educational level of parents

H-F1-2 – Completed education of parents affects the factor of stability and pro-social elements in the family.

Conclusion: Hypothesis H0 is accepted. The level of education of parents of a child with hearing impairment does not affect the factor of stability and pro-social elements in the family. The educational level of parents is not determined as the decisive factor for stability and presence of pro-social signs.

Religiosity of parents

H-F1-3 – Religiosity of parents affects the factor of stability and pro-social elements in the family.

Conclusion: Hypothesis H0 may be accepted. The assumption that the religiosity of parents of a child with hearing impairment does not affect the factor of stability and pro-social elements in the family could not be invalidated. In relation to the research sample, the inclination to religiosity, which was described above, of these parents may not be identified as a decisive factor for stability and presence

of pro-social signs. However, it is possible to regard it as one of the supporting factors.

Moment of diagnosis

H-F1-4 Diagnosis made before or after 12 months of age of a child significantly affects the stability of the family. Because the newborn hearing screening in Czech Republic is not defined as a legal claim, sixth month of age is a boundary age of the child to be diagnosed. In accordance to common rules, the testing period of the hearing aid should take at least six months. If after that period the child has no progress in hearing reception, it is time to begin the process of proposal for cochlear implant.

Conclusion: Assumption that the difference in the moment at which the diagnosis is made affects factor 1 was confirmed. Hypothesis was accepted. Significant negative influence was reported after 12 months of age.

Identified communication burden affecting the family of a child with hearing impairment was defined as **factor 2**.

The age of a child at which signs of hearing impairment were first noticed

H-F2-1 The age of a child when symptoms of hearing impairment were first noticed affects the communication burden in the family.

Conclusion: The results confirm the hypothesis ($p < .05$). The age of a child at which the first symptoms of hearing impairment are noticed is statistically significant in the correlation with the communication burden. It may be speculated that the uncertainty of parents, who are looking for answers and professional assistance, increases together with the increasing age of a child and the expected development of his/her communication competences. On the basis of the difficulty of the situation and the resultant degree of burden, three groups were defined: Group I with children up to 6 months of age, group II including families with children up to 12 months of age and group III including families with children older than 12 months.

Discovering hearing impairment before 12 months of age

H-F2-2 Discovery of hearing impairment before 12 months of age affects the communication burden in the family.

Conclusion: The results confirm the alternative hypothesis ($p < .05$): if the hearing impairment is diagnosed before 12 months of age, the communication burden in the family is regarded as significantly lower.

Factor 3 features “attitude of the family to the current and future educational expectations of a child with hearing impairment.” By applying the factor analysis, individual items were compared. Three of them were evaluated as the closest: “I am sure that spoken speech is the primary objective in educating the child with hearing impairment. I believe that mastering spoken speech is also the primary objective for my child. Currently, our family believes that good future awaits our child and he/she will have a good job in adulthood.”

Internal dynamics and overall imbalance are typical for this factor. The statistical processing did not demonstrate any significant connection with the demographic characteristics.

The **factor 4** consisted of items describing the “socialization process related to the family.” The following items demonstrated the closest connection:

1. In our family we often work with information about hearing impairment obtained from the experts.
2. For our child we did not face a problem with selecting a special pre-school or a regular pre-school for hearing children.
3. Our family have an opportunity to contact and meet other families with children with hearing impairment.
4. I do not believe sign language is of any importance to my child.
5. No significant connections between the monitored items in terms of the defined hypotheses were found.

Factor 5 was described as “social impact of the child’s hearing impairment on the fam-

ily.” For this factor the following parameters were chosen:

1. To be a parent of a child with hearing impairment means continuous suffering and sorrow.
2. Our family has always suffered from comments made by others that our child is hearing impaired.
3. There is no bright future for a child with hearing impairment.
4. By having a child with hearing impairment the financial situation of our family worsened.
5. By having a child with hearing impairment my marriage was negatively affected.
6. Our family have an opportunity to contact and meet other families with children with hearing impairment.

Economic impact of the child's hearing impairment on the family

H-F5-1 The family income significantly affects the social impact on the family.

Conclusion: Statistically the dependence between factor 5 and the income of the family was demonstrated; hypothesis is confirmed ($p < .05$). Families with income oscillating around the minimum wage see the hearing impairment of their child as a greater burden. In general, the child's hearing impairment increases the financial needs of the family, not only in the areas directly related to the impairment but also in terms of a more complicated organization and structure of the family life, requirements on the quality and number of technical equipment (in accordance to Czech's regulations and conditions, a TV set and one computer per child with hearing impairment are determined as compensation aids and paid by social services).

Religiosity in relation to expectations of the social impact of the child's hearing impairment on the family

H-F5-2 Religiosity of parents significantly affects the factor of negative social acceptance by the society.

Conclusion: Results of statistical processing do not allow us to confirm the hypothesis of a different perception of the hearing impairment of a child by religious parents. This result may be regarded as surprising because it was expected that declared religiosity may have a positive effect and thus result in a higher degree of resilience against the stress situation.

Other conclusions

Other factors (formally, three institutional sources of services and information are recognized in the legal frame: medical, social and pedagogical) which contribute to the resilience of the family were explored under the following items:

- “Which information do you, as parents of a child with hearing impairment, consider the most important?”
- “What kind of assistance do you consider the most efficient in terms of the needs of parents of a child with hearing impairment?”

Table 5. Importance of information

Type/source of information	Number of answers
Medical area	12
Special education area	18
Psychological/others	18
No information	6

Table 6. Efficiency of assistance

Type/source of assistance	Number of answers
Medicine	4
Special education	31
Own help	10
Social services	5
No need to help	4

The data in the tables demonstrate a very good status of special education interventions as a source of information and assistance to the

family in their difficult situation. If the two parameters above are taken as parameters with direct support to family resilience, then it is possible to evaluate the degree of qualification and efficiency of special education activities, primarily of the interventions, as very important.

The views of the family as regards the child with hearing impairment were explored through three open-ended sentences enabling to describe the child and the parents' perception of his/her future. Respondents were asked to complete the given sentences – "I think he/she is..." The obtained endings of the three sentences were summarized under two groups (negative and positive) with the following frequency of answers:

Table 7. Classification of attitudes in completed sentences according to the parents' feelings

Optimistic, balanced, positive statement	47
Negative perception statement expressing mental instability	7

CONCLUSION

There are two significant conclusions strongly affecting other findings:

1. The average time elapsed between discovering/suspicion of hearing impairment and the first diagnosis is 22.0 months.
2. The average time between the completion of diagnosis and the first hearing aid is 7.1 months.

The objective of this research was to describe resilience in families of children with hearing impairment. In the studied cohort the following elements do not affect the stability of the family and its pro-social elements:

- the fact whether it is a single-parent family or a family with both parents,
- the level of education of the parents,
- religiosity of the parents.

The stability of a family and its pro-social elements are significantly negatively affected by a diagnosis completed after the age of 12 months.

It was also demonstrated that the communication burden affecting the family of a child with hearing impairment in the studied group of respondents:

- is lower if the child's age is lower when the first symptoms of hearing impairment are noticed,
- is significantly lower if the hearing impairment is diagnosed at a specialized establishment before the age of 12 months.

Attitudes of the family to the current and future educational reality of a child with hearing impairment were studied by applying the factor analysis and three of them were evaluated as the closest: "I am sure that spoken speech is the primary objective in educating a child with hearing impairment. I believe that mastering spoken speech is also the primary objective for my child. Currently, our family believes that a good future awaits our child and he/she will have a good job in adulthood."

From this perspective, the statistical evaluation did not demonstrate any significant relationships explaining the resilience process in a family of a child with hearing impairment. As a possible explanation, there is a possibility showing a high level of certainty of parents as regards the erudition of special education experts and the quality of educational and developmental activities in schools attended by the children. Possibly, the institution assumed responsibility and the parents' attitudes and their reflection upon family resilience was not possible to be described from the relationship point of view. Similarly, we may think (and the practice may provide examples that are not sporadic) that most parents give up the difficult task and are happy to take advantage of a weekly boarding school from the pre-school age on and thus transfer all the work and, in their opinion, all responsibility, to the institution.

Family resilience also consists of items related to the process of socialization of the family as a whole. This was factor 4 determined by the factor analysis. The analysis revealed the closest relationship in the following items: "In our family we often work with in-

formation about hearing impairment obtained from the experts. For our child we did not face a problem with selecting a special pre-school or a regular pre-school for hearing children. Our family have an opportunity to contact and meet other families with children with hearing impairment. I do not believe sign language is of any importance to my child.” Similarly, no significant connections between the monitored items in terms of the defined hypotheses were demonstrated.

Factor 5 was described as the social impact of the child’s hearing impairment on the family. Statistically the following was demonstrated:

- The level of income of the family significantly affects the impact of the child’s hearing impairment on the reflection upon the family’s social life. Families with a lower income feel the impact of the hearing impairment of their child more. Families with incomes oscillating around the minimum wage see the hearing impairment of their child as a greater stigma.
- Religiosity of parents does not have any effect on eliminating the negative attitude to the hearing impairment.

DISCUSSION

The study was focused on parents of children with hearing impairment who are living at home or at a boarding house during the weeks of the school year. It examined the parents’ responses to the diagnosis, their patterns of adjustment, as well as their statements as to future expectations. In this way factors of resilience were examined which enable the parents to function and to play their parenting role during stressful time and to be able to cope in a realistic and effective way, regarding the present and the future of their child.

In this study most of the parents tended towards an emotionally and physiologically negative response to the diagnosis of their child’s disability. The results of the research are supported by other results and conclusions

(e.g., Marvin, Pianta, 1996; Seligman, Darling, 1989) focused on reactions of parents in such a specific and burden situation.

It was found that internal movements within a family with a child with hearing impairment brought on significant changes in the social life and contacts of such a family which sprang from frustration and dissatisfaction.

The presented sample of families could provide a clearer picture of the parents’ experiences and feelings, and significant differences between the families might then emerge. The findings of this study provide a better understanding of the effect of various types of parameters which influence families of children with hearing impairment.

The parents reported a very bad experience at the time of the diagnosis. It was assumed as a key point in the research. The average time between discovering hearing impairment and the first diagnosis was 22.0 months at this sample. This finding has a strong influence on the belief in the child and in the child’s future, in maintaining an optimistic outlook along with a realistic view and acceptance of the situation. Surprisingly, a very low influence and supportive effect was assigned to religiosity and faith.

It can be assumed, in terms of Jan Blacher’s theory (Blacher, 1984), that the parents who participated in the presented study were all at a stage when they have already accepted the full meaning and implications of the child’s hearing impairment and have adapted themselves to it. As the main sources of support, medicine, special education and, to a somewhat lesser extent, psychology were mentioned.

In relation to the findings, the core of the characteristics of family resilience can be viewed as “the ability to bounce back or to return to a previous way of functioning” (Hawley and DeHaan, 1996, p. 284). The most important factors that enable parents to function “in a resilient way” were identified in this study: they are: an early diagnosis and a quick start with support linked to the social life of the family, professional support based on psychological and special education services for

family members. Another characteristic that was found to clarify the sense of resilience in these families comprised positive parental feelings towards their child, towards coping, and towards family relationships.

Furthermore, the parents emphasized the idea of accepting the child, analyzing the situation in an objective way, and trying to obtain practical and efficient solutions. The majority of the parents, that is 87%, expressed such feelings as joy, love, acceptance, satisfaction, optimism, and strength and the rest, that is 23%, expressed such negative feelings as anger, frustration, or guilt about rearing a child with a disability.

The presented study shows the influence of certain factors on the upbringing of children with hearing loss. Research has yielded results reflecting the impact on upbringing of the child in particular from the side of financial situation of the family, emotional climate,

declared religiosity, family constellation, and not least the concept of social relations.

Results brought description of concerns which are in the family of a child with hearing impairment and to which the families responded – in most cases – with strength and fortitude (i.e., with resilience).

The findings demonstrate some elements which would be advantageous to enhance coping strategies that may contribute to parents' competencies, particularly in relation to the future, independent life of their child.

Finally, the results highlighted the importance of a stronger reflection and a wider offer within the area of medical, psychological and social services. More research results are needed for fitting and modifying resources such as effective programs of early intervention. In future studies, relationships inside the families, as well as the roles and positions of the fathers will be described.

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