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Liu Shenglin[1] *Miloň Potměšíl*[2]

A comparative study of deaf children's family resilience

Abstract

This study compares families' adaptation to childhood deafness in China and the Czech Republic. A sample of 160 families with deaf children were studied; 107 from China, 53 from the Czech Republic. The results showed that (1) overall, both family groups demonstrated resilience when facing the risk of childhood deafness by accepting the children's deafness, functioning normally, and expecting a good future for their children; (2) Chinese families and Czech families did not demonstrate significant differences in the overall outcome of positive adaptation but displayed apparent differences in adaptive patterns; (3) Chinese families were impacted more severely than Czech families by childhood deafness due to the lack of adequate social support, but cohesive family relationships and more positive changes in family belief such as optimism, altruism and tolerance toward differences might mediate the adverse impact caused by children's deafness.

Keywords: comparative study, family resilience, deaf children, China, the Czech Republic

Porównawcze badania odporności psychicznej w rodzinach dzieci głuchych

Streszczenie

Prezentowanych badaniach dokonano porównania stopnia adaptacji do głuchoty dziecka u rodzin w Chinach i w Republice Czeskiej. W badania uczestniczyło 160 rodzin z dziećmi głuchymi; 107 z Chin, 53 z Republiki Czeskiej. Wyniki wykazały, że (1) obydwie grupy rodzin przejawiały odporność psychiczną w obliczu ryzyka głuchoty dziecięcej poprzez jej zaakceptowanie, normalne funkcjo-nowa nie rodziny oraz oczekiwanie pomyślnej przyszłości dzieci; (2) rodziny chińskie i czeskie nie wykazały znaczących różnic w ogólnym wyniku pozytywnej

[1] Liu Shenglin is the professor of the Faculty of Education, Sichuan Normal University. The study was funded by the Scientific Research Starting Grant at this university.

Address for correspondence: Chengdu 610066, Sichuan Province, P.R. China, xiaoduo.liu@gmail.com;

[2] Miloň Potměšíl is the professor of the Institute of Special Education Studies, Faculty of Education, Palacky University Olomouc, Czech Republic. The article was founded by the grant – PdF_2010_011

Adress for correspondance: Zizkovo nam. 5, 771 40 Olomouc, Czech Republic, mvpotmesil@gmail.com

adaptacji, zaobserwowano wyraźne różnice w zakresie wzorca adaptacyjnego; (3) rodziny chińskie były bardziej dotknięte głuchotą dziecka niż czeskie z powodu braku odpowiedniego wsparcia socjalnego, ale spójne związki rodzinne i bardziej pozytywne zmiany w przekonaniach rodzinnych, takie jak optymizm, altruizm i tolerancja w stosunku do zmian, mogą częściowo przezwyciężać niekorzystny wpływ spowodowany głuchotą dziecięcą.

Słowa kluczowe: badania porównawcze, odporność psychiczna rodziny, dzieci głuche, Chiny, Czechy

Introduction

Family is the central social context within which the development of the individual child occurs. As a functional unit, the family is undoubtedly impacted by childhood disabilities. Having a child with any disability including deafness presents special challenges to the overwhelming majority of families. A large number of researchers have paid attention to the impact of a child's disability on family life. Some researchers proposed that the response of parents to the diagnosis of a serious disability in their child had many parallels with the reaction of bereavement. The main difference was that the child's disability was a permanent source of sorrow, whereas death marked a crisis point beyond which readjustment could begin (Hall & Hill 1996). According to Barnett et al. (2003), some common parental reactions to news of their child's disability are as follows: (1) feeling devastated, overwhelmed, and traumatized by the news; (2) shock, denial, numbness, and disbelief; (3) sense of loss for the "hoped for child"; (4) feelings of guilt, responsibility, and shame; (5) strong anger directed toward the medical staff and professional involved with the child; (6) marital and other family relationships become severely strained; (7) family routines are disrupted, etc. In addition, the reality of having a child with a disability at home cannot be seen as a single event happening at some particular point in time. On the contrary, it is a long drawn-out process which may well produce marked and continuing effects on the family. Research has shown that providing care for an individual with a disability may drain financial resources and physical and emotional energy (Raver et al. 2010). As for childhood deafness, quite a few studies have indicated that it not only impacts an individual's development, but also affects all aspects of family life, including family interaction, resources, parenting and support for the child who is deaf (Jackson, Turnbull 2004).

However, no matter how hard the situation is, there always exist some families with resilience who can cope with childhood disabilities successfully while others are unable to do so. Resilience is mainly a research topic in developmental pathopsychology, mental health, and family stress research fields which have focused on strengths and empowerment in the past decades. In spite of the fact that a large number of studies on resilience have been conducted by researchers from multiple disciplines, there is no agreement on the understanding of resilience among them. However, "most researchers believe that the concept of resilience should include three elements: significant risk, positive adaptation (doing ok or good outcome) and the processes over time that surmount obstacles, and go on to live and love fully" (Luthar 2003; Walsh 2003). Putting "family" together with "resilience", the concept

of family resilience describes the path a family follows as it adapts and prospers in the face of risk, both in the present and over time (Hann et al. 2002). As stated above, childhood disabilities, including childhood deafness, are undoubtedly significant risks which challenge almost all families around the world. Facing the impacts posed on families by their children's disabilities, numerous papers have documented the factors which can lead to families' positive adaptation to childhood disabilities. For example, Calderon et al. (1999) recruited 36 families with different degrees of hearing loss (24 to 110 dB) to examine the factors affecting mother and child adjustment. Results indicated that (a) social support emerged as an important predicator of maternal adjustment as well as a buffer between current life stress and maternal adjustment, and (b) maternal problem-solving skills, for example, finding someone to talk too, finding appropriate resources for the child, etc. emerged as a significant predicator of a child's adjustment. King et al. (2003) used a qualitative method of a focus group to analyse the changes in the belief systems of families of children with the autism syndrome. Results indicated that raising a child with a disability can be a life-changing experience that spurs families to examine their belief systems. Parents can come to gain a sense of coherence and control through changes in their world views, values and priorities that involve different ways of thinking about their child, their parenting role, and the role of the family. To sum up, in this study the concept of family resilience was defined as the dynamic process through which a family adapts to the reality of having a deaf child in the family. It mainly includes three parts: the impacts of childhood deafness as a significant risk on family life, the transactional process of childhood deafness and protective or supportive factors, and the outcome of adaptation to childhood deafness.

Disability, especially deafness, is a term that is culturally, historically, and philosophically relative in its interpretations. According to the World Health Organization (2001), a person's functioning and disability is conceived as a dynamic interaction between health conditions (disease, disorders, injuries, traumas, etc.) and contextual factors. Contextual factors represent the complete background of an individual's life and living. Among them the environmental factors make up the physical, social and attitudinal environment in which people live and conduct their lives. These factors are external to individuals and can have a positive and negative influence on the individual's performance as a member of society, on the individual's capacity to execute actions or tasks, or on the individual's body function or structure (WHO 2001, p. 16). To be more specific, it can be said that children with disabilities and their families living in the different contexts experience differently. Making use of access to families with deaf children in the two countries of China and the Czech Republic, this comparative study attempts to explore how families in two different social contexts have been affected by childhood deafness, and what help is needed for these families to adapt to the reality of having a deaf child in the family.

China and the Czech Republic are two completely different countries in terms of their social context. For example, as a whole, China is a big eastern country with a population of more than 1.3 billion and continues having a developing status with a Human Development Index (HDI) of 0.772, which is a composite measure of three dimensions of human development: living a long and healthy life, being educated,

and having a decent standard of living (United Nations Development Programme 2009). This gives the country a rank of 92nd out of 182 countries. Compared with China, the Czech Republic is a western developed country with a population of 10,500,000 (2009 estimate), an area of 78,864 square kilometres and with a high HDI of 0.903, which gives the country a rank of 36th out of 182 countries (United Nations Development Programme 2009). Additionally, the two countries have different population policies. To control the swift increase in the population, China has implemented a one-child policy since the 1980s while the Czech Republic has adopted a positive family policy to encourage the birth of more children since the 1990s. These differences make the two countries good examples for the examination of how families in different social contexts adapt to children with disabilities.

Method

Participants

The 107 main caregivers of deaf children (with an average age of 101.1 months, the age range between 31–220 months) in two special schools and one early rehabilitation centre in Sichuan Province in China and 53 main caregivers of deaf children (with an average age of 117.2 months, the age range between 35–172 months) from three special schools, respectively in Hradec Králové, Ostrava, and Olomouc in Czech Republic participated in the research. Because the parents were not always the persons who best knew the child and they were not always the main caregiver of a hearing impaired child in each family, in this study the main caregivers who had been with the child for more than one year, and consequently were considered to know the child the best, were invited to be informants and respond on behalf of the whole family. They could be parents, grandparents or other caregivers who knew the family well.

The 160 participant families in the two countries formed defined groups and demonstrated different demographic characteristics as follows: (1) more than 90% of families from both of the two groups were of hearing parents; (2) most Chinese families (67.29%) resided in rural areas while most of the Czech families (69.81%) resided in urban areas; (3) more Chinese families (57.01%) had lower income while more Czech families (43.40%) reported having a middle family income; (4) the Czech group demonstrated a higher proportion of having received higher education (24.53%) as compared to their Chinese counterparts (12.15%); (5) Chinese families had a higher rate (90.65%) of parental marriage with a married status while their Czech counterparts revealed a higher rate of divorced, separated, and cohabited families (32.08% in total). Interestingly, although one-child policies have been conducted since the 1980s as a national policy in China, 41.12% of the participating children were not the only child in the family. This phenomenon can probably be attributed to the supplementary regulations of the one-child policy in China that state that if the first child in the family has certificated, but not genetic disabilities, the family is entitled to give birth to the second child. More detailed background information about the two family groups is presented in Table 1.

Table 1. Background information about the participating families

Variable	China (N = 107)		Czech Republic (N = 53)	
	N %		N %	
Parent hearing				
Both hearing	100	93.46%	48	90.57%
Both hearing-impaired	2	1.87%	4	7.55%
Combined	5	4.67%	1	1.89%
Residence				
Urban	35	32.71%	37	69.81%
Rural	72	67.29%	16	30.19%
Income				
Lower	61	57.01%	13	24.53%
Middle	46	42.99%	23	43.40%
Higher	0	0	7	13.21%
Educational attainment				
Illiterate	2	1.87%	0	0
Primary education	16	14.95%	4	7.55%
Secondary education	77	71.96%	36	67.92%
Higher education	13	12.15%	13	24.53%
Parent marriage				
Married	97	90.65%	36	67.92%
Separated	6	5.61%	5	9.43%
Divorced	4	3.74%	8	15.09%
Cohabited	0	0	4	7.55%
One-child				
Yes	63	58.88%	15	28.30%
No	44	41.12%	38	71.70%
Child's gender				
Boy	66	61.68%	30	56.60%
Girl	41	38.32%	23	43.40%
Children's average age (months)	101.6		117.2	
Age range (months)	31–220		35–172	

Procedure

Due to substantial variations in definitions and measurement of resilience and family resilience in previous studies (Walsh 2002; Patterson 2002; Heru *et al.* 2006), in this study the term family resilience was defined theoretically as a systematic and dynamic process through which a family adapts to the reality of having a deaf child. It mainly includes the impacts of childhood deafness as a significant risk on family life, the transactional process of childhood deafness and protective or supportive factors, and the outcome of adaptation to childhood deafness. According to this framework, a questionnaire to examine the resilience of families with deaf children in the two countries was developed for this study. It consisted of four parts. The first part consisted of data about the informant, including the relationship between the

informant and participating child, residence, educational attainment, and the time he/she took care of the child. The second part collected background information about the participating child, including the age of the child, gender, the marriage status of the child's parents, the hearing of the child's parents, economic status of the family, education level of the family, religious activity, the number of children in the family, hearing loss of the child, time of hearing diagnosis, onset of hearing loss, time of wearing hearing aids, the provider of the hearing aids, time of using cochlear implants, the provider of cochlear implants, communication mode, types of therapy, provider of therapy, educational placement, provider of special education. The third part and main body of the questionnaire was a Likert five-point scale including 29 items which were used to examine the following factors: the impact of the child's deafness on family life, the outcome of family adaptation, the social stigma associated with deafness, changes in family beliefs, family characteristics, social support and ideas concerning hearing-impaired education. Summarized items relating to family resilience are listed in Table 2. The last part of the questionnaire presented one open-ended question: Write out the biggest difficulty your family has met while parenting your deaf child. To conduct the survey, in China an associate of the research team went to special schools to help informants fill in the questionnaire and let them return the questionnaire immediately after they completed it. In Czech, the questionnaires were distributed to the headmasters of three special schools and with their help the questionnaires were completed and returned to the researchers at Palacky University.

Table 2. Summarized items relating to family resilience

Factor 1 Impact of deafness on family life	
Item 10 Difficulty in communicating with my child	
Item 11 Having a feeling of great fatigue	
Item 12 Family economy deteriorating	
Item 22 The mutual communication of family members being affected	
Factor 2 Outcome of family adaptation	
Acceptance	Item 1 Parenting a deaf child being a chronic sorrow and grief
	Item 25 More acceptance at present than during the early days after the diagnosis
Functioning	Item 14 Marital relationship deteriorating
	Item 24 Best efforts having been made to promote the child's development
	Item 28 Family relationships becoming closer while parenting the child
Expecting	Item 27 The family believing that the child will have a bright future
	Item 29 The family being able to deal with the coming difficulties and problems
Factor 3 Social support	
Item 13 Support from the extended family and other relatives helping me greatly	
Item 17 The family getting necessary and related information from professionals	
Item 18 The child choosing to attend a special or regular school freely	
Item 19 My family having access to a self-help group for parents	
Item 23 Financial support is high enough to meet the special needs of the child	

Factor 4 Social stigma
Item 2 The family being teased by other people because of the child's deafness
Item 3 The child's deafness meaning that the child will not have a bright future
Factor 5 Family characteristics
Item 5 Strongly believing in the family's ability to face the challenge of a child's deafness
Item 6 The family is characterized by close relationships and mutual support
Item 15 Families share emotions and opinions together while parenting the child
Factor 6 Changes in family belief
Item 4 The family tending to be fatalistic because of the child's deafness
Item 7 While parenting the deaf child, the degree of the family's altruism is increasing
Item 8 While parenting the deaf child, the degree of tolerance toward differences is increasing
Item 9 While parenting the deaf child, the degree of life optimism is increasing

Results

Impact of childhood deafness on family life

Childhood deafness impacted the family life of families with deaf children from both countries, but Chinese families were impacted more severely than Czech families. Firstly, through families' responses on Item 10, 11, 12 (see Table 3), we can learn that both groups of families tended to agree that childhood deafness leads to communication difficulties with the child, family economy deterioration, and the feeling of fatigue while parenting the child. Secondly, according to the comparison of impacts of deafness on family life in Table 3, statistically there was a significant difference in the deterioration of family economy and fatigue ($p < 0.001$), and also a significant difference in communication difficulty ($p < 0.05$) between the Chinese family group and the Czech family group. Nevertheless, a significant difference is not observed in the relationships of family members. To some degree it seems that the relationships between family members were not affected heavily by childhood deafness in either country. In other words, Chinese families experienced much higher increased economic burden and greater fatigue than Czech families, while families in both countries experienced similar difficulties in communicating with their children.

Further, this result was validated by the families' responses to the open-ended question. As described above, in the last part of the questionnaire the respondents were asked to write about the biggest difficulty the family met while parenting their deaf child. This study got very detailed and interesting descriptions of the biggest difficulties from the two groups of families (see Table 4 and Table 5). First, 104 families from among 107 participating families in China responded to this question. Generally, their responses involved an array of difficulties including increased financial demands, increased time demands, worries about the future, fear of being teased by others, a feeling of fatigue, difficulty with communicating with the child, etc. Table 4 lists the top five difficulties which Chinese families met, namely, economic burden, communication difficulties, educational puzzle, worrying about the child's future, the impact of childhood deafness on normal work. The number of

families is given in brackets and the specific descriptions of the difficulty from the most representative family are presented as an example.

Table 3. Comparison of impacts of deafness on family life

Item	China (N = 107)		Czech Republic (N = 53)		t-test for Equality of Means (Sig. 2-tailed)
	Mean response	Std. Deviation	Mean response	Std. Deviation	
Item 10	3.48	1.00	3.02	1.12	2.55 (0.013)*
Item 11	3.50	1.16	2.74	1.04	4.23 (0.000)**
Item 12	3.51	1.35	2.57	0.99	5.03 (0.000)**
Item 22	2.29	1.25	2.33	1.03	-0.18 (0.856)
Overall impact	12.80	3.54	10.69	3.02	3.87 (0.000)**

Note:

* stands for being significant at the 0.05 level

** stands for being significant at the 0.001 level

Table 4. The top five responses to parenting difficulties in Chinese families

• **Financial burden (37)** e.g.: "We cannot afford his cochlear implant and one parent has to stop working in order to accompany his study." (A16)
• **Difficulty in Communication (30)** e.g.: "The biggest problem is we cannot understand her when she communicates with us by sign and she cannot understand what we say when we speak to her in spoken language." (B23)
• **Educational puzzle (18)** e.g.: "Sometimes we do not know how to educate him as we lack the professional knowledge about hearing impairment." (D16)
• **Worrying about the child's future (5)** e.g.: "He cannot speak and understand well, what would happen if both his parent and grandparent die?" (A14)
• **Impact of childhood hearing impairment on normal work (4)** e.g.: "I feel tired and cannot work normally because every day I need to send him for speech therapy and take him back after work." (C6)

In parallel to Chinese families, 49 of 53 families in Czech presented their responses to the question about the family's biggest difficulty while parenting their children (see Table 5). By frequency calculation, the top six family responses (the fourth, fifth, and sixth with the same frequency) to the question related to communication problems, no problem, doctor's response and attitude toward the child's hearing loss, accepting the disability, the children's attendance at a normal school, and problems with cochlear implants. One point that particularly needs to be noted is that 8 families reported they had no problems; this was especially true for deaf parents. By comparison, the same difficulty which both family groups experienced was communicating with the child. The differences between the two groups can be particular.

Table 5. The top six responses to parenting difficulties in Czech families

The six top responses in parenting difficulty from Czech families
• **Difficulty in communication (15)** e.g.: "We have difficulty with explaining learning material when he prepares his homework." (Hradec 05)
• **No problem (8)** e.g.: "Both parents are deaf, we have no problem." (Ostrava 22) e.g.: "We have no problem, only feel shocked with her diagnosis of hearing loss; after she turned 6 years old, everything was ok." (Olomouc 15)
• **Doctor's response and attitude (5)** e.g.: "Bad communication with doctor and doctor's indifference to the child. The doctor told us that parents should go to an expert for more information." (Olomouc 01)
• **Accepting the disability (3)** e.g.: "I cannot be calm about the child's disability and the attitude of others." (Ostrava 16)
• **Child's attending normal school: aloneness, being teased by others (3)** e.g.: "We have a problem with registering the child at a normal school and worrying about the child's communication with normal children." (Oloumouc 08)
• **Problem with sensory cochlear implants (3)** e.g.: "We have no other problems except with cochlear implants because the insurance only pays the first cochlear implantation." (Ostrava 25)

Classified into two aspects: (1) the two family groups experienced different specific difficulties. For example, the most salient difficulty for Chinese families was financial burden while for Czech families it was communication difficulties. (2) Chinese families seemed to experience more difficulties than their Czech counterparts because a considerable proportion of families in the Czech group reported no problems.

Outcome of family adaptation to childhood deafness

As stated above, the outcome of family adaptation was measured comprehensively through three elements: the family accepting childhood deafness, family functioning at present, and the family's expectations for the child's future. In this study over time both Chinese and Czech families demonstrated positive adaptation to childhood deafness and no significant difference in the overall outcome of adaptation. On average, the two family groups had similar scores (3.97 and 3.95, see Table 6) in family adaptation, which were higher than the middle level of adaptation (3) operationalized with a theoretical boundary level between positive and negative sides despite big differences in specific variables, such as accepting and functioning. In general, the average scores of the two groups demonstrated that these families basically accept the reality of childhood deafness, function normally, and expect a good future for children. Using the Independent-Sample t-test statistics in SPSS to compare the two family groups' responses on the overall level, the test had a t-test value of 0.24 with a degree of freedom of 153, which means there is no significant difference in the overall level of adaptation. The detailed data is exhibited in Table 6.

Table 6. Differences between the two groups in the outcome of family's adaptation

Variable	Relevant item	China (N = 107)		Czech Republic (N = 53)		t-test for Equality of Means (Sig. 2-tailed)
		Mean	Std. Deviation	Mean	Std. Deviation	
Accepting	Item 1, 25	6.90	1.66	7.71	1.32	-3.31 (0.001)*
Functioning	Item 14, 24, 28	13.19	2.18	12.18	2.00	2.86 (0.005)*
Expecting	Item 27, 29	7.73	2.13	7.73	1.34	-0.01 (0.995)
Overall adaptation	Item 1, 14, 24, 25, 27, 28, 29	27.81	4.73	27.65	3.63	0.24 (0.81)
Average score	0utcome	3.97	0.68	3.95	0.52	0.24 (0.81)

Note:

* stands for being significant at the 0.01 level

Comparison of factors relevant to family adaptation

Social support. There was a big gap in social support between the two family groups, that is, Chinese families got limited support from outside while Czech families got support from many kinds of organizations. This study explored the social support for families in the two countries via Item 13 (support from the extended family and other relatives), Item 17 (getting necessary information from professionals), Item 18 (attending special or regular school appropriately and freely), Item 19 (access to self-help groups for parents), Item 23 (financial support). The result of the present study showed that Czech families received more adequate support services than Chinese families, which to a larger degree might lead to the Czech families' positive adaptation. From the source of the perceived support, both the Chinese family group and their Czech counterparts emphasized support from extended families and relatives. However, this kind of support seemed to be the main source for Chinese families while Czech families could get support from multiple channels such as parent groups and professionals, etc. Furthermore, the statistical results demonstrated that there were extremely significant differences in access to parent self-help groups, in the choice of educational placement of children, in information support from professionals, and slightly significant differences in support from the extended family and relatives. Both of them tend to disagree with the statement that financial support from welfare is high enough to meet the special needs of the child. More specific information about social support for families from the two counties is provided in detail in Table 7.

In addition, some background information collected by this study about the services provided to deaf children could further validate the difference in social support between families from the two countries. What supports the children must support the families because of the close relationship between the child and the family. According to the descriptive data about the situation of children's hearing loss and the conditions of intervention services in using sensory devices and receiving therapy, the difference in intervention services – mainly regarding the rate of using hearing aids, the rate of using cochlear implants, the rate of receiving therapy – between families from the two countries is obvious. It is evident that Chinese children were provided with a much lower rate of intervention services than their Czech counterparts (see Figure 1). This result might support the above mentioned finding that Chinese families have the biggest difficulty in communicating with the child.

Table 7. Differences in social support between families from the two countries

Source	China (N = 107)	Czech Republic (N = 53)		t-test for Equality of Means (Sig. 2-tailed)	
	Mean response	Std. Deviation	Mean Response	Std. Deviation	
SE	3.34	1.50	3.81	1.16	-2.20 (0.030)*
IP	2.69	1.46	3.38	0.92	-3.61 (0.000)**
EP	1.30	0.74	2.83	1.34	-7.70 (0.000)
SH	1.91	1.43	3.84	1.01	-9.89 (0.000)**
FH	2.52	1.30	2.32	1.14	1.01 (0.316)
Overall social support	11.78	3.54	16.19	2.89	-8.418 (0.000)**

Note:
* stands for being significant at the 0.05 level
** stands for being significant at the 0.001 level
SE: support from the extended family;
IP: information from professionals;
EP: educational placement;
SH: self-help group;
FH: financial help from welfare

Social stigma associated with childhood deafness. The families' responses to Item 2 (My family has always been teased by other people because of my child's deafness) and Item 3 (My child's deafness means the child will not have a bright future) indicated that both Chinese families and Czech families were not heavily impacted by social stigma associated with childhood deafness because both family groups tended to disagree with statements, such as that deafness means no bright future and that the family is being teased by others due to childhood deafness. Further statistical tests showed that Czech families were less affected by social stigma than Chinese families (see Table 8). However, there existed a significant difference in social stigma associated with childhood deafness between the two groups, that is, despite no severe impacts posed on the two groups of families by social stigma, Chinese families were affected relatively more.

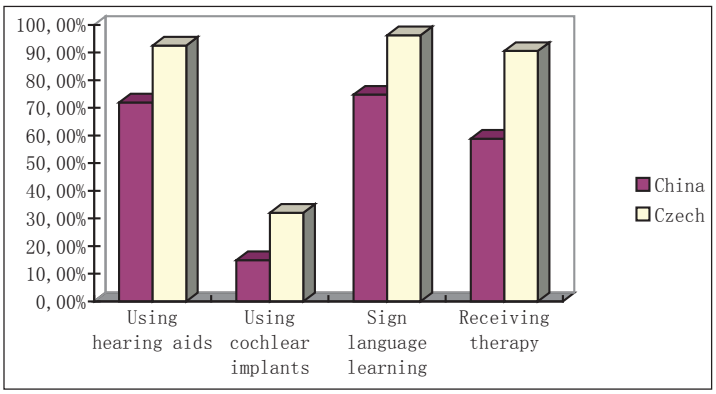

Figure 1. Rates of using hearing aids, cochlear implants, sign language learning and receiving therapy in two family groups

Table 8. Differences in social stigma between Chinese and Czech families

Item	China (N = 107)		Czech Republic (N = 53)		t-test for Equality of Means (Sig. 2-tailed)
	Mean response	Std. Deviation	Mean response	Std. Deviation	
Item 2	2.97	1.08	2.19	0.84	4.99 (0.000)*
Item 3	2.97	1.28	2.42	0.94	3.06 (0.003)*
Overall social stigma	5.94	1.92	4.62	1.51	4.75 (0.000)*

Note:
* stands for being significant at the 0.001 level

Family characteristics. This study examined characteristics of Chinese families and Czech families from three dimensions, family self-efficacy, family cohesion, and the status of open communication. One similarity between the two groups that can be found is that both groups of families highly agreed with the statement that "My family is characterized by close relationships and mutual support." That is, both groups of families were characterised by cohesive family relationships. The main differences between the two groups of families were among their responses in family self-efficacy and open communication. Both Chinese and Czech families got higher scores in family self-efficacy, 3.57 and 4.32 respectively, while Czech families manifested apparently better responses in this dimension. It meant Czech families believe more in their ability to deal with the challenge of childhood deafness. As for the responses in the dimension of family open communication it was different. Chinese families showed more open communication by sharing their emotions and feelings together compared to Czech families (see Table 9).

Table 9. Differences in family characteristics between the two family groups

Variable	China (N = 107)		Czech Republic (N = 53)		t-test for Equality of Means (Sig. 2-tailed)
	Mean response	Std. Deviation	Mean response	Std. Deviation	
Self-efficacy	3.57	1.29	4.32	0.75	-4.63 (0.000)*
Cohesion	4.16	1.13	4.47	0.85	-1.96 (0.052)
Open communication	3.62	1.14	2.87	1.02	4.25 (0.000)*

Note:
* stands for being significant at the 0.001 level

Changes in family beliefs. This study explored changes in family beliefs from four aspects: fatalism, altruism, tolerance, and optimism while parenting the deaf child. Facing the challenge of childhood deafness, some big changes in the family's beliefs occurred. According to statistics, both groups of families tended not to be fatalistic, in contrast, they tended to be more altruistic, optimistic, and tolerant toward differences while parenting their deaf children. Furthermore, Chinese families

experienced more significant increases in optimism and tolerance toward differences. More detailed statistics are listed in Table 10. Overall, Chinese families experienced a more marked belief change than Czech families.

Table 10. Differences in changes in family beliefs of the two family groups

Item	China (N = 107)		Czech Republic (N = 53)		t-test for Equality of Means (Sig. 2-tailed)
	Mean response	Std. Deviation	Mean response	Std. Deviation	
Item 4	2.82	1.31	2.72	1.25	0.495 (0.621)
Item 7	3.98	0.85	3.40	1.01	3.371 (0.001)*
Item 8	3.94	0.98	3.75	1.07	1.08 (0.283)
Item 9	3.71	1.13	3.00	1.09	3.83 (0.000)*
Overall belief change	14.46	2.45	12.83	3.62	2.94 (0.004)*

Note:

* stands for being significant at the 0.001 level

Discussions

The findings of the present study suggest that childhood deafness constituted a significant risk to both Chinese families and Czech families due to its impacts on family life by increasing financial burden, a strong feeling of fatigue, and influencing parent-child communication, etc. This result was basically consistent with those of past studies (Jackson & Turnbull 2004; Hintermair 2000; Singer & Farkas 1989). For example, as argued by Hintermair (2000), any disability, whether it is mental or physical, is unanimously regarded as a considerable stress potential for the parents with impacts on all aspects of family life.

Further, Chinese families seemed to experience more difficulty in financial burden, communication with the deaf children, and so on. The significant difference in impacts on Chinese families and Czech families posed by the children's deafness may be attributed, to a large degree, to a big gap in social support between the two countries. In general, the gap between the two groups is manifested in the following aspects: (1) The results of hearing-loss-related characteristics suggest that Chinese children adopted the use of hearing aids, cochlear implants, and received sign language training and associated therapy later. (2) The expenses of hearing aids, cochlear implants, and associated therapy in Czech families are almost completely paid by health insurance, and only a few families make partial payments when they are dissatisfied with the quality of hearing aids paid by health insurance or if they wish to pay for a second one. In sharp contrast, in China almost all these expenses are paid by the family completely or partially, and only few families benefit from government funds and donations. (3) Some Czech families explicitly or implicitly have mentioned the existence of other sources of financial support, for example some parents mentioned the convenience of staying at home when needed or the possibility of working part-time. This might be explained by the existence of a positive family

policy in the Czech Republic. According to family policies in the Czech Republic, families with children receive family benefits generally in three stages and in two forms of transfers and taxation. Transfers represent direct financial support from the government, such as a birth grant, child-rearing allowance or parental allowance, and a child benefit paid to families with children usually up to the end of the child's compulsory education. The findings of this study further validate the idea that social support as an important protective factor can alleviate the adverse impact of children's disabilities (Calderon et al. 1999).

Chinese families also experienced more difficulty while living with deaf children, probably caused by an atmosphere of more social stigma related to childhood deafness compared with Czech families. This result reflects the development stage of special education and other services provided to individuals with special needs in the two countries. In the Czech Republic, with a long history of special education and the attempt to shift from the medical model to a social model of disability, many deaf individuals have the opportunity to go to college and integrate into society. In contrast to Czech families, Chinese families may have a different experience. They are more afraid of being teased by others and tend to believe more often that deaf children have no bright future. To a larger degree it is due to the fact that many children with special needs cannot have access to higher education and have the possibility of becoming a useful member of society. This result supports the idea that disability is a culturally and socially constructed phenomenon and families in different social contexts experience it differently (WHO 2001; Raver 2010).

However, despite the risky exposure to childhood deafness, over time the two groups of families from two different social contexts became resilient with positive adaptation based on three indicators: accepting childhood deafness, functioning normally at present, and expecting a good future. In detail, it meant that the family basically accepted the reality of having a deaf child, functioned well by keeping closer family relationships and not deteriorated marital relations, having made best efforts to promote their child's communication and learning. Furthermore, they expected a good future for the child and believed in the family's ability to deal with future problems despite the severe negative impacts of childhood deafness. This finding further supports the main idea in the field of resilience that no barrier is insurmountable with appropriate support over time (Masten & Reed 2002; Walsh 2002).

Without adequate support from outside, Chinese families' positive adaptation might be partially explained as a function of the unique features of Chinese families. Compared with Czech families, Chinese families demonstrate several different features. First, despite increased financial burden and difficulties in communicating with children due to childhood deafness, Chinese families retain good integrity with a higher rate of marriage, 90.65% (see Table 1). Second, Chinese families tend to get more support from the extended family and other relatives because China is a society within which family members depend upon each other and are ready to help each other. Third, Chinese families are characterized by open communication and the sharing of emotions and feelings while facing childhood deafness. This result can be supported by the previous study of family resilience. For example, Walsh (1996) argued that open communication that clarifies ambiguous situations, encourages

open emotional expression and empathetic response, and fosters collaboration problem solving, is especially important in facilitating resilience.

Another important protective factor which helps Chinese families in dealing with childhood deafness might be the marked changes in family beliefs. Family belief systems were considered to be among the most important factors affecting the adaptation and resilience of families while facing a great challenge. Compared with Czech families, this study demonstrated that Chinese families tended not to believe in destiny, they have become more optimistic about the future, more tolerant toward differences, and more altruistic to others while parenting deaf children. Having a deaf child is really an event that can change family beliefs because China is a society that highly values the future of its offspring. Theoretically, this positive change in family beliefs was consistent with previous results. Previous literature on the adaptation of families of children with chronic health conditions had indicated that these families coped with a child's disability by attributing positive meanings to their situations, defining them as manageable, and making efforts to regain a sense of control (King et al. 2005). Also families gained a greater understanding of themselves through the experience of raising a child with a disability, and learned about patience, acceptance, tolerance, perseverance, compassion, and unconditional love (Grant et al. 2007). However, because of little research concerning family resilience of families with deaf children, the results of changes in family beliefs need to be further examined by more relevant studies in the future.

Conclusions

Finally, the following conclusions were drawn from the above conducted results and discussion:

1. Both Chinese families and Czech families are impacted by childhood deafness while Chinese families experience more severe difficulties in communicating with children, more deteriorated family economy and fatigue.
2. Overall, the two groups of families from China and the Czech Republic were resilient with positive adaptation to childhood deafness after more than ten years of struggling with them, on average with no significant difference in the outcome of adaptation between the two groups.
3. Czech families' positive adaptation might be attributed to adequate social support and less marked social stigma. Social support included intervention services provided to children, such as using hearing aids, cochlear implants, receiving therapy, and those provided to families, such as financial support for sensory devices, information support from professionals, a free choice in special schools and regular schools, access to self-help parent groups, and the pro-family policy.
4. Despite the adverse impact of childhood deafness, the protective factors, including support from the extended family, open communication, and changes in family beliefs (including becoming optimistic, altruistic and tolerant toward differences) might contribute to the positive adaptation of Chinese families.

References

Barnett, D., Clements, M., Kaplan-Estrin, M. & Fialka, J. (2003). Building new dreams: Supporting parents' adaptation to their child with special needs. *Infants and Young Children*, *16*(3), 184–200.

Grant, G., Ramcharan, P. & Flynn, M. (2007). Resilience in families with children and adult members with intellectual disabilities: Tracing elements of a psycho-social model. *Journal of Applied Research in Intellectual Disabilities*, *20*, 563–575.

Hall, D. M. B. & Hill, P. D. (1996). *The child with a disability* (2nd ed.). London: Blackwell Science Ltd.

Haan, L. D., Hawley, D. R. & Deal, J. E. (2002). Operationalizing family resilience: A methodological strategy. *The American Journal of Family Therapy*, *30*, 275–291.

Heru, A. M. (2006). Understanding families: From criticalness to resilience. *Medicine and health Rhode Island, 89*(5), 178–181.

Hintermair, M. (2000b). Children who are hearing impaired with additional disabilities and related aspects of parental stress. *Exceptional children*, *66*(3), 327–332.

Jackson, C. W., Turnbull, A. (2004). Impact of deafness on family life: a review of the literature. *Topics in early childhood special education, 24*(1), 15–29.

Ju, Y. & Chu, Y. (1996). *Understanding China: Centre stage of the fourth power*. New York: State University of New York.

King, G. A., Brown, E. G. & Smith, L. K. (2003). *Resilience: Learning from people with disabilities and the turning points in their lives*. Westport: Greenwood Publishing Group, Inc.

King, G. A., Zwaigenbaum, L., King, S., Baxter, D., Rosenbaum, P. & Bates, A. (2005). A qualitative investigation of changes in the belief systems of families of children with autism or down syndrome. *Child: care, health & development*, *32*(3), 353–369.

Luther, S. S. (2003). *Resilience and vulnerability: adaptation in the context of childhood adversities.* Cambridge: Cambridge University Press.

Masten, A. S. (1994). Resilience in individual development: Successful adaptation despite risk and adversity. In M. C. Wang & E. W. Gordon (Eds.), *Educational resilience in inner-city America: challenges and prospects* (pp. 3–26). New Jersey: Lawrence Erlbaum Associates, Inc.

Ministry of Labour and Social Affairs. (2010). *State social support benefits*. Retrieved from: http://www.mpsv.cz/en/1612#sspb

Patterson, J. M. (2002). Integrating family resilience and family stress theory. *Journal of marriage and family*, *64*, 349–360.

Švarcova, N. & Švarc, P. (2009). The financial impact of government policies on families with children in the Czech Republic, Hungary, Poland, and Slovakia. AUCO (Acta Universitatis Carolinae Oeconomica). *Czech economic review*, *3*, 48–68.

United Nations Development Programme (2009). *Human development report 2009*. http://www.undp.org/publications/annualreport2009/report.shtml

Walsh, F. (2002). A family resilience framework: Innovative practice applications. *Family relations*, *51*(2), 130–137.

World Health Organization. (2001). *International classification of functioning, disability and health*: ICF. Geneva: WHO Press.

Xu A. Q. (2007). Chinese family strengths and resiliency. *Marriage & Family Review*, *41*(1–2), 143–164.