

## Research Article



# Coping and Emotional Styles in Mothers of Children with Hearing Impairment

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**Citation:** Safari Z, Khoramshahi H, Bassak Nejad S, Daštoorpoor M, Moradi N. Coping and Emotional Styles in Mothers of Children with Hearing Impairment. *Journal of Modern Rehabilitation*. 2022; 16(2):161-169. <https://doi.org/10.18502/jmr.v16i2.9303>

**doi** <https://doi.org/10.18502/jmr.v16i2.9303>

### Article info:

Received: 22 Feb 2021

Accepted: 14 Jun 2021

Available Online: 01 Apr 2022

## ABSTRACT

**Introduction:** The unique long-term challenges that families of children with hearing impairment experience put them at greater risk for increasing parental stress levels. This study seeks whether children's hearing impairment affects their mothers' emotional and coping styles with stressful situations.

**Materials and Methods:** The coping inventory for stressful situations and the maternal emotional styles questionnaire were distributed among 108 mothers of hearing-impaired children and an equal number of mothers of normal children.

**Results:** In the task-oriented, distraction, and social diversion styles, the mean scores of the mothers of healthy children were significantly higher than those of the mothers of hearing-impaired children. Regarding the emotion-oriented style, the mean score of the mothers of hearing-impaired children was significantly higher than that of the mothers of healthy children. With regard to the emotional coaching style, the mean score of the mothers of healthy children was significantly higher than that of the mothers of hearing-impaired children. There was no statistically significant difference between the two groups in the mean score of emotional dismissing.

**Conclusion:** It seems that mothers of hearing-impaired children use less effective coping and emotional styles that have adverse consequences for mothers and their children's development.

### Keywords:

Coping; Hearing impairment; Coping inventory in stressful situations; Maternal emotional styles questionnaire

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## 1. Introduction

**S**tress refers to physiological, cognitive, or emotional pressure or tension. Parental stress can be defined as a distressing psychological response to the demands of parenthood and can be considered one of the most common daily concerns of parents [1].

The unique long-term challenges that families of children with hearing impairments and other disabilities experience put them at greater risk for increasing parental stress levels [1, 2]. Parental stress in mothers of children with hearing impairment can be associated with adverse parent-child outcomes and increase the risk of stunted language development and behavioral consequences for the child [1, 3-5]. Maternal communication skills and parenting styles are essential indicators of language development, basic reading skills, and socio-emotional development [5, 6]. A study by Zaidman-Zait et al. on 30 couples with hearing-impaired children showed that higher coping resources decreased parenting stress levels [1]. The results of a study by Jean et al. show that mothers of hearing-impaired children could effectively manage parenting stress and increase well-being by capitalizing on relevant stress-reducing resources to achieve maternal coherence [2]. Therefore, in the process of rehabilitation of hearing-impaired children, the mental health of mothers and their acceptance of the children's problem should be considered. Accepting the children's problems by the families and supporting the children's needs will affect their social, emotional, and linguistic development [7].

Lazarus and Folkman defined coping as "the process of managing demands (external or internal) that are valued as a force or beyond an individual's resources" [8]. Studies suggest that coping styles play an important role in how people respond to stressful situations and negative life events [9]. There are generally two or three main coping strategies: task-oriented, emotion-oriented, and avoidance-oriented. The coping inventory for stressful situations (CISS) scale assesses three dimensions (task-oriented, emotion-oriented and avoidance-oriented) that are common to most concepts of coping strategies. Task-oriented coping requires a direct approach to a stressful situation; emotion-oriented coping involves a tendency to feel emotional about an event. Finally, avoidance-oriented coping with escape strategies is characterized by distraction and social diversion [10]. In a confirmatory factor analysis of the CISS by Cook and Hepner, they compared the 3-factor and 4-factor models (dividing the avoidance-oriented factor into two subfactors of

distraction and social diversion), which showed a better fit of the 4-factor model [11]. The better fit of the 4-factor model was also confirmed by Shokri et al. [12], which is why we used a 4-factor model in this study.

The pivotal role of parent-child attachment in a child's development has been supported by empirical evidence [13]. A growing body of evidence suggests a link between a healthy parent-child "emotional connection" and positive linguistic, social, and educational outcomes [7, 14-16]. In 1996, Gottman, Katz, and Hooven introduced a new concept of parenting called the parental meta-emotion philosophy, which refers to an organized set of feelings and thoughts that parents have about their own and children's emotions [17]. The degree of emotional philosophy of parental emotional coaching or emotion dismissing varies [13, 17]. For this reason, parenting education programs emphasizing parenting attitudes and emotion-related exercises are recommended. Parental behaviors and emotions significantly affect language development, and therefore addressing parental behaviors is an essential step for early language learning [18, 19].

As parents influence children's development, the children's characteristics also impact parents' functions and quality of life. Therefore, the relationship between child disorder and parents' functions is a two-way process [15, 20]. Majorano et al. found that the mothers of children with more advanced lexical production, six months after CI activation, displayed a high frequency of themes related to positive emotions, thoughts, and coping strategies before the surgery. Distress on the part of the mothers, perceptions of difficulties in their children, and instances of parent-child dysfunctional interactions are negatively and significantly related to the child's language and communication development [16]. Therefore, besides children's needs, parents' functions must be considered [15, 21]. This study aims to answer whether children's hearing impairment affects their mothers' coping styles with stressful situations and mothers' emotional styles.

## 2. Materials and Methods

### Study participants

The participants were 108 mothers (aged 21-47 years) of hearing-impaired children and 108 mothers (aged 18-48 years) of healthy children as the control group. The mean age of mothers of healthy children was 32.861 (SD=4.81) years and of mothers of hearing-impaired children 31.22 (SD=5.05) years. The mothers were age-matched. About 98.1% of the mothers of hearing-impaired children and 97.2% of the mothers of healthy children had a cohabi-

tation that was consistent in this regard. In terms of monthly income, both groups of mothers were matched. Children with a hearing impairment aged 8-71 months with Mean±SD age of 51.82±13.33 months and healthy children were 1-71 months old with Mean±SD age of 47.43±17.35 months. The participants' demographic information is summarized in Table 1.

Mothers of hearing-impaired children (aged <6 years) were selected from hearing-impaired children's centers and speech therapy clinics in Ahvaz City, Iran. To compare the results obtained from mothers of hearing-impaired children with mothers of healthy children, these questionnaires were handed out to mothers of healthy children aged <6 years with normal speech and language and selected from kindergartens in the same city.

Written informed consent was obtained from all participants. The project proposal was reviewed at Ahvaz Jundishapur University of Medical Sciences and was approved by the Ethics Committee with the ID IR.AJUMS.REC.1398.301 code.

### Study scales

#### Coping Inventory in Stressful Situation (CISS)

To examine mothers' coping styles, we used the Persian version of the Parker and Andler stress coping tools questionnaire [12, 22]. The Cronbach alpha coefficients (From 0.70 to 0.86) and correlation coefficients obtained from the test-retest subscales (0.64, 0.60, 0.61, 0.58, and 0.55 were obtained for problem-oriented, emotion-oriented, and avoidance-oriented dimensions, as well as distraction and social diversion subscales, respectively) showed that this questionnaire has high validity. The Confirmatory Factor Analysis (CFA) revealed that while the 3-factor model in the CISS had an acceptable fit to the data, the 4-factor model demonstrated a superior fit [12].

This questionnaire includes three coping styles: task-oriented, emotion-oriented, and avoidance-oriented. The scale has 48 items. Each item is related to one of the dimensions of coping and is scored on a 5-point Likert scale from never=1 to very high=5. Avoidance-oriented coping style can be divided into the subscales of distraction and social diversion; each is assessed through eight items. It should be noted that the dominant style of an individual is determined according to her or his scores in each of the three dimensions of coping styles. In other words, whichever behaviors score higher, that behavior is considered the individual's preferred coping style [22].

#### Maternal Emotional Styles Questionnaire (MESQ)

To examine maternal emotional styles in mothers, we used the Persian version of Séguin and Coplan's maternal emotional styles questionnaire (MESQ), which has acceptable validity and reliability [14, 23]. The internal consistency coefficients of the MESQ scale are obtained at a high level. The calculation of the test-retest coefficient at one-month intervals was favorable and high ( $P < 0.001$ ). Findings of Soleimani and Bashash's research showed that the Persian version of the MESQ scale has acceptable psychometric properties in measuring maternal emotional styles. The Cronbach  $\alpha$  coefficient for emotional coaching style and emotional dismissing style was 0.86 and 0.88, respectively [23]. This scale is designed to measure mothers' emotional styles in relation to their children. It is a self-report scale and includes 14 items. A score between 1 and 5 (strongly agree to strongly disagree) is assigned to each subject. This questionnaire consists of two components: emotional coaching style (when my child is upset, it is time to solve problems), which includes 7 items, and emotional dismissing style (when my child is angry, my goal is to keep her from being angry) that also includes 7 items. In this scale, the dominant style of each person is determined according to obtained score in each of the dimensions of emotional styles [14].

### 3. Results

In the group of mothers of healthy children, the Mean±SD number of children in the family (1.63, SD=0.83) was less than the mean number of children in the group of mothers of hearing-impaired children (1.93, SD=0.92), which is a significant difference ( $P=0.012$ ). In the group of mothers of healthy children, the amount of time spent by mothers with children (Mean±SD 6.53±62 hours) was higher than in the group of mothers of hearing-impaired children (Mean±SD 3.62±2.28), which is a significant difference ( $P < 0.001$ ).

#### Analysis of Coping Styles With Stressful Situations

The mean scores of coping styles with stressful situations were compared between the two groups (mothers of healthy and hearing-impaired children) using the independent t-test. Regarding the task-oriented style, distraction, and social diversion, the mean score of mothers of healthy children was significantly higher than those in the group of mothers of hearing-impaired children ( $P < 0.001$ ). In the emotion-oriented style, the mean score in the group of mothers of hearing-impaired children

**Table 1.** Participants’ demographic information

Variables		Healthy Children	Hearing-Impaired Children
Mean age of mothers (y)		32.861	31.22
Mean age of children (y)		3.95	4.32
Mothers’ education	High school	7	32
	Diploma	28	34
	Bachelor’s degree	53	34
	Master’s degree	19	8
	PhD or higher	1	0
Average monthly family income (IRR)		4671296.3	3312037.1
Parents’ cohabitation		97.2%	98.1%
Mean number of children in the family		1.63	1.93
Average hours of mother-child shared time		6.53	3.62
Mean age of children at the time of diagnosis of hearing impairment		-	11.85 months
Hearing impairment severity	Moderate (40-65 dB)	-	30(27.8%)
	Severe (66-90 dB)	-	35(32.4%)
	Profound (>90 dB)	-	43(39.8%)

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was significantly higher than that in the group of mothers of healthy children ( $P<0.001$ ) (Figure 1).

Because of the different number of questions related to each coping style in the Persian version of the CISS questionnaire, a one-sample t-test was performed to assess the predominant coping style of mothers in the two groups. In the group of mothers of healthy children, the task-oriented style with an average of 4.07 obtained the highest score; thus, the predominant coping style of these mothers was task-oriented (Figure 2). In the group of mothers of hearing-impaired children, the task-oriented style with an average of 3.17 obtained the highest score; therefore, the predominant coping style of these mothers was task-oriented (Figure 3).

**Analysis of maternal emotional styles**

The mean scores of maternal emotional styles were compared between the two study groups using the independent t-test. In the emotional coaching style, the mean score of mothers of healthy children was significantly higher than that in the group of mothers of hearing-impaired children ( $P=0.001$ ). There was no statistically

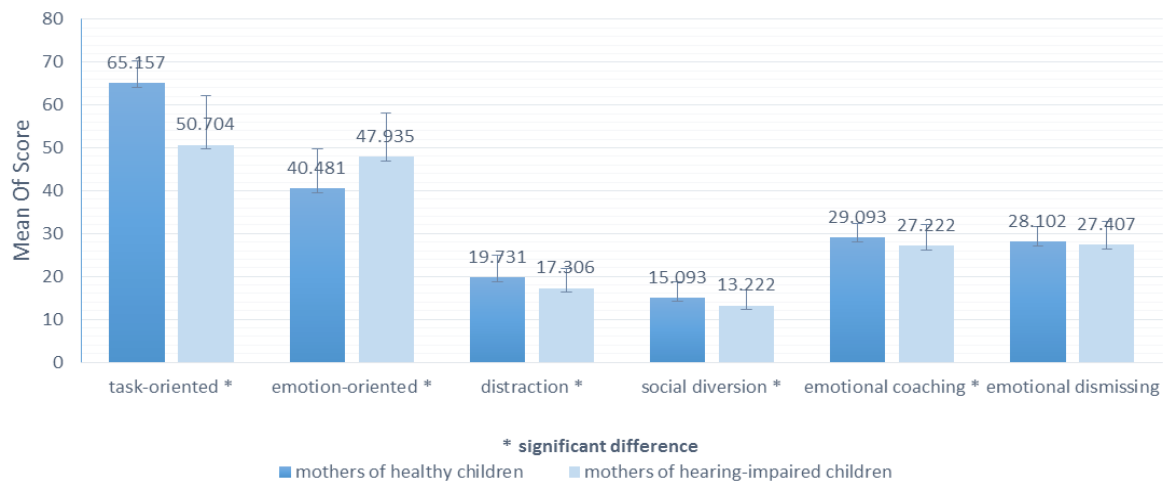
significant difference in the mean score of emotional dismissing in the two groups ( $P=0.270$ ) (Figure 1).

According to Figure 1, the predominant maternal emotional style in mothers of healthy children is emotional coaching style and in mothers of hearing-impaired children is emotional dismissing.

**4. Discussion**

This study aimed to compare coping styles with stressful situations and maternal emotional styles among mothers of hearing-impaired and healthy children under six years old.

The comparison of the means obtained from coping styles with stressful situations shows that in the group of mothers of healthy children, the means of coping styles of task-oriented and avoidance coping styles, which includes distraction and social diversion, were higher than those in the group of mothers of hearing-impaired children. In the group of mothers of hearing-impaired children, the mean of emotion-oriented coping style was higher than that of mothers of healthy children. Although



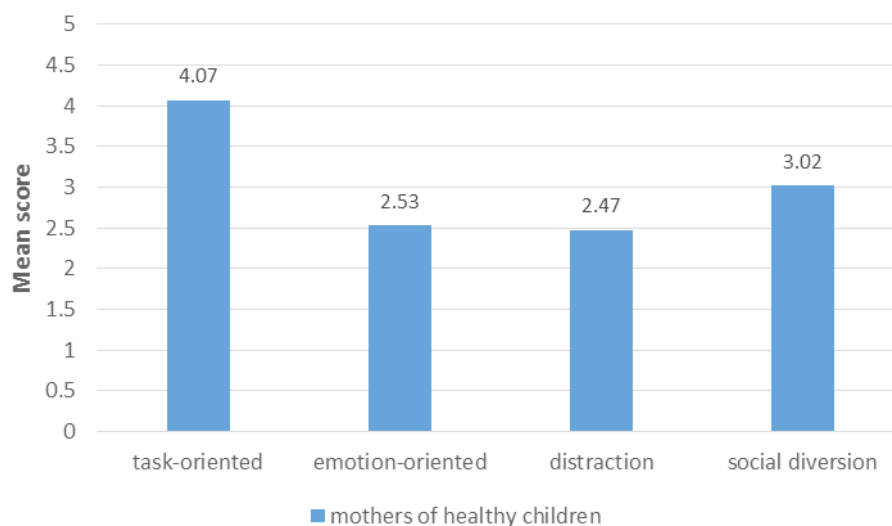
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**Figure 1.** Comparing the mean scores of coping styles with stressful situations and maternal emotional styles between the two groups

the results of the 1-sample t-test show that the predominant coping style in both groups of mothers is task-oriented, mothers of healthy children are more likely to use the task-oriented style than mothers of hearing-impaired children, according to the results obtained from comparing the means in the two groups. As shown in Figure 2, in the group of mothers of healthy children, after the task-oriented style, the distraction style is the dominant style. According to Figure 3, in the group of mothers of hearing-impaired children, after task-oriented style, the predominant style is emotion-oriented.

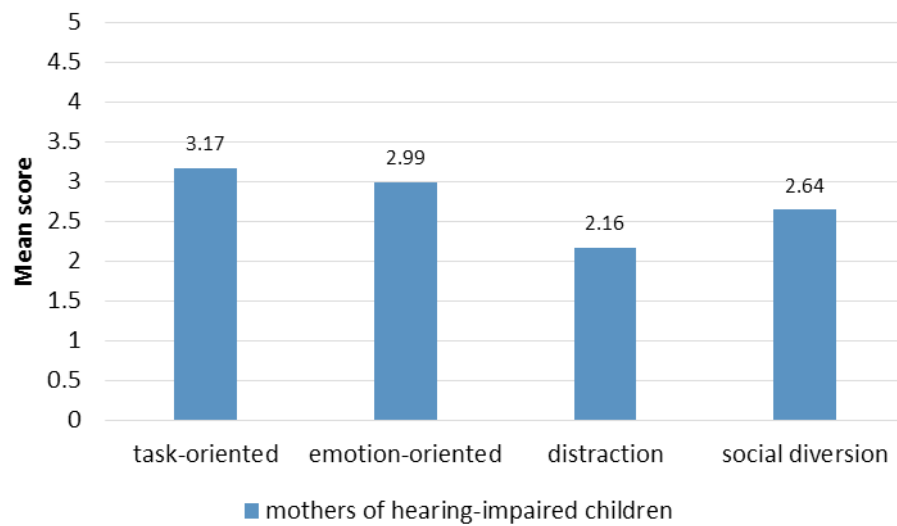
It should be noted that strategies for dealing with stressful situations are different in terms of effectiveness. Task-

oriented coping is more compatible with mental health [9]. Studies have shown that task-oriented coping style has positive relationships with self-esteem, feelings of dominance, and self-efficacy, and negative relationships with social loneliness, state anxiety, and depression. Conversely, the emotion-oriented style is recognized as a less compatible approach to coping with stressful situations [24]. Engaging in negative emotions without constructive affect-regulation efforts reinforces distress and increases negative psychological outcomes such as depression, anxiety, and stress. In terms of avoidance-oriented coping, these strategies reduce anxiety in the short term and immediately after stress (within a week) but are less adaptable to long-term mental health than the task-



**Figure 2.** The results of 1-sample t-test to assess the predominant coping style of mothers of healthy children

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**Figure 3.** The results of 1-sample t-test to assess the predominant coping style of mothers of hearing-impaired children

oriented style [25]. On the other hand, distraction is an adapted strategy that makes women adapt to life changes and increases the quality of life [26]. To avoid talking about a stressful topic or to reduce its effects, the individuals refrain from thinking about the topic, withdraw from others, and do not express their feelings. These are cognitive-behavioral and active strategies [22]. Instead of stressing, the individual tries to think about other aspects of life and ignore problems, although they accept the pressures and thus maintain their composure [27, 28].

Experts working with families of children with disabilities view the family as a system that seeks to manage the stress of dealing with a child with a disability, and because a hearing-impaired child is part of the family system, hearing impairment affects not only the child but the family as a whole [3, 29]. According to Boss, family is a dynamic system of reciprocal personalities interconnected by common rituals and laws beyond biology [30]. Disability in a family member affects the whole system and the well-being of the disabled person [30].

Traditional service programs focus on child-centered support, but family feedback shows the widespread impact of child disability on the entire family system. A qualitative study conducted by Jackson et al. to examine parents' experiences with their child's initial diagnosis of deafness shows that deafness changes the balance of the family system and makes disability the focus of the family. Families reported increased stress due to diagnosis, data collection, parenting, time and financial demand, safety, and concerns about the future. This qualitative study also shows that raising awareness about the impact of hearing impairment on the family may be necessary

during the early intervention, and more support should be provided to these families [31].

Examining the type of coping strategies of mothers of hearing-impaired children is important since it can show the mental health of mothers. As mentioned, certain coping strategies reduce stress and increase positive psychological outcomes, while others exacerbate stress and negative psychological outcomes [32-34]. As this study shows, the predominant coping style in mothers of hearing-impaired children (like mothers of healthy children) is the task-oriented style. However, after the task-oriented style, their predominant style is the emotion-oriented style (Figure 3). Moreover, the mean score for the emotion-oriented style was significantly higher in mothers of healthy children (Figure 1). However, mothers of healthy children used the task-oriented style more than mothers of hearing-impaired children, and also after the task-oriented style, their predominant style is social diversion (Figure 2), which is more effective than the emotion-oriented style [24-28, 35]. These results emphasize studying the coping strategies of mothers of hearing-impaired children with stressful situations. Because mothers of hearing-impaired children seem to use less effective coping strategies than mothers of healthy children, they are more likely to suffer psychological damage. The intervention for hearing-impaired infants and preschoolers should be family-oriented. Since success and adjustment in preschool and school-age children are associated with successful family adjustment [3], the mental health of the whole family, especially mothers, needs to be focused on.

Comparing the mean scores for maternal emotional styles, the predominant maternal emotional style in mothers of healthy children is emotional coaching style, and in mothers of hearing-impaired children, emotional dismissing style. Therefore, it seems that mothers of healthy children have a more efficient emotional style in relation to their children.

Parents who adopt the emotional coaching style often acknowledge and validate their child's emotions and guide their children on managing their strong or negative emotions. Conversely, parents who provide poor emotional coaching (or exhibit an "emotional dismissing" parenting style) may find the expression of negative emotion in the child destructive, unbearable, or insignificant and try to ignore or oppress such emotions in their children [36].

The emotional atmosphere in a parent-child relationship is an essential ground for a child's development in many areas, including the linguistic aspect [37]. A study by Cohodes et al. shows that a combination of maternal awareness, acceptance, and coaching of children's grief significantly predicts the verbal IQ of preschool children [38]. Pressman et al. reported that maternal sensitivity in hearing mothers significantly and positively predicts the acquisition of expressive language in their hearing-impaired children. Maternal sensitivity can facilitate mutual understanding and provide a context for understanding incomprehensible symbolic communication. The positive effect of sensitivity on language acquisition in hearing-impaired children can indicate the necessary flexibility and motivation for hearing mothers and make compensatory adjustments to the communication needs of these children. Mothers who are not discouraged by their children's slow language development and do not shy away from the interaction, can contribute to their child's long-term success [37].

This study shows that mothers of hearing-impaired children have a more emotional dismissing style in relation to their children's emotions. Considering the mothers' reaction to children's emotions on developing their language and communication skills, it seems that the education of mothers of hearing-impaired children is essential. Studies have shown that interactions between parents and their hearing-impaired children received higher scores in terms of sensitivity after the families participated in an intervention that included psychological counseling for parents, compared to parents who participated in a similar intervention but without psychological counseling services [37]. Therefore, this intervention can positively affect the child's overall performance.

## 5. Conclusion

The present study shows a significant difference between mothers of healthy and hearing-impaired children regarding their emotional styles and coping styles with stressful situations. It seems that mothers of hearing-impaired children use less effective coping and emotional styles, which can have negative psychological consequences for mothers and their children's development. The results of this study can be effective in creating a deeper insight in speech and language pathologists and audiologists about the impact of children's hearing loss on mothers' performance and lead to providing more comprehensive services for these families.

## Ethical Considerations

### Compliance with ethical guidelines

All participants provided written informed consent to participate in the study. The project proposal was reviewed at Ahvaz Jundishapur University of Medical Sciences and approved by the Ethics Committee with the ID IR.AJUMS.REC.1398.301 code.

### Funding

This project was funded by the credit of the approved research project No. PHT-9815. All rights of this project are reserved for Ahvaz Jundishapur University of Medical Sciences.

### Authors' contributions

All authors equally contributed to preparing this article.

### Conflict of interest

The authors declared no conflict of interest.

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