

## EMPIRICAL MANUSCRIPT

# The Impact of Childhood Hearing Loss on the Family: Mothers' and Fathers' Stress and Coping Resources

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## Abstract

Parenting children who are deaf or hard of hearing (D/HH) presents unique long-term challenges that can place the parents at a greater risk for elevated levels of parenting stress. Adaptation of families to the various challenges presented by childhood hearing loss is influenced by their personal and social coping resources available for managing these stressors and challenges. The current study examined differences in parenting stress and personal (i.e., acceptance of the child who is D/HH and parents' sense of parenting self-efficacy) and social (i.e., formal and informal social support) coping resources between mothers and fathers of children who are D/HH in the Arab sector in Israel. Further, the study examined the relations between coping resources and parenting stress among these parents. Participants included 30 Israeli Arab mother–father couples ( $n = 60$ ) having a child who is D/HH aged 3–8 years. Findings revealed no significant differences between mothers and fathers regarding parenting stress, child acceptance, or parental support systems. However, mothers reported significantly higher self-efficacy. In addition, correlation analysis indicated that higher coping resources decreased parenting stress levels. Theoretical and practical implications of parental gender in the context of cultural background are discussed regarding parent intervention programs.

A child's hearing loss (HL) affects the child, as well as his or her family (Jackson & Turnbull, 2004). Parenting children who are deaf or hard of hearing (D/HH) presents unique long-term challenges that can place them at a greater risk for elevated levels of parenting stress (e.g., Lederberg & Golbach, 2002; Quittner et al., 2010; Zaidman-Zait, 2008). Parenting stress can be defined as an aversive psychological reaction to the demands of being a parent (Deater-Deckard, 1998) and has been identified as one of the most common daily concerns faced by parents (Chang & Fine, 2007). This specific type of stress arises when parents' perceptions of the demands of parenting outstrip their resources (Abidin, 1992; Deater-Deckard, 1998). Hence, when examining parenting stress among parents of children who are D/HH, it is important to consider the context-specific stressors and challenges embedded in the actual tasks and demands of parenting a D/HH child (Quittner & DiGirolamo, 1998; Quittner et al.,

2010). Condition-related stressors often constitute a significant portion of the total stress experienced by parents (Streisand & Tercyak, 2004). Coincidentally, previous studies consistently indicate that hearing parents of children who are D/HH report increased context-specific stress in comparison to parents of children with normal hearing (Quittner et al., 2010).

The consideration of parenting stress is important, as it affects both parents and children in several ways. These include increased risk for poor parent mental health outcomes (Hastings, 2003), negative caregiving behaviors (Osborne & Reed, 2010), and potential difficulties in implementing behavioral interventions to help their children (Kazdin, 1995). In terms of the child, parenting stress might increase the risk for reduced language development and behavior outcomes (Quittner et al., 2010; Sarant & Garrard, 2014).

Most research on parenting stress has been focused on mothers as the primary caretaker. Research investigating stress

among mothers of D/HH children may not be generalizable to fathers, considering the larger role mothers play in daily care for their children and common differences between mothers' and fathers' household and parenting roles. Among parents of children with disabilities, comparisons between mothers and fathers in their ratings of parenting stress have yielded mixed results. Some studies report comparable levels of stress among both mothers and fathers (Davis & Carter, 2008; Hastings et al. 2005). However, in other samples higher stress levels have been reported among mothers (Beckman, 1991; Sharpley, Bitsika, & Efreimidis, 1997). Turning specifically to parents of children who are D/HH, one study that compared fathers' and mothers' general parenting stress did not find differences (Meadow-Orlans, 1994). To our knowledge, no other studies compared parenting stress among mothers and fathers of children who are D/HH.

Interest in the different impact of childhood disability on both fathers and mothers stems from family system theory. According to this theory, families are viewed as social systems (Parke & Buriel, 1998) where each individual or subsystem in the family is influenced by the others (Steinglass, 1987). However, studies that examined mothers and fathers considered them as a single parental unit (e.g., Sach & Whynes, 2005) ignoring the interdependence of data within families. Consequently, when viewing the impact of having a child who is D/HH from a system perspective, maternal reactions should be examined in tandem with reactions by another caregiver, such as the father. For instance, one parent's acceptance of the child also depends on whether the other parent shows a similar or dissimilar reaction. Given that the definition of the role of the father within a family has shifted (McBride et al., 2005), the exciting evidence that many fathers are substantially involved in caring for their children (Bouchard, Lee, Asgary & Pelletier, 2007; Pleck & Masciadrelli, 2004), and in line with the increasing attention being paid to the significant fathers' role in children's development (Parke, 2004), contemporary research should address each of the parents' roles and needs in order to facilitate the provision of appropriate supports.

Stress experienced by mothers and fathers depends on multiple factors and can be influenced by different personal and social coping resources available for managing these stressors and challenges (McCubbin & Patterson, 1983). Apart from examining similarities or differences in mothers' and fathers' stress, it is also important to examine differences in their coping resources and to explore whether similar resources determine their adjustment. According to Lazarus and Folkman's (1984) transactional model of stress and coping, stress is defined as individuals' cognitive evaluation of stressors associated with an event or an ongoing situation and individuals' appraisals of specific personal and social resources affecting their coping ability. In their coping efforts, individuals draw upon social and personal resources (Pearline & Schooler, 1978). Personal resources include parents' psychological characteristics and strengths (e.g., self-efficacy) that promote effective coping. Social, external resources include the formal and informal sources of support that parents receive from their social network (e.g., friends, professionals, and other parents). Resources presumably contribute to individual differences in stress-related experiences, coping efforts, and outcomes (Holahan, Moos, Holahan, & Brennen, 1997; Ptacek, Pierce, & Ptacek, 2002). The adaptation of families to challenging events, such as childhood HL, is influenced by the resources available to manage the stressor and by how family members define or appraise the stressor event (McCubbin & Patterson, 1983). Confidingly, early intervention programs should use a resource-based approach to map out the assets available

to families in order to support their needs and their adjustment (Dunst, 2000). A family that is able to accept their child's disability, adjust to it and support the child's needs, may contribute substantially to that child's well-being and social, emotional, and language development (Calderon, 2000; Cole & Flexer, 2007; Desjardin, 2009; DesJardin & Eisenberg, 2007). Previous studies that examined mothers and fathers indicated that they cope differently with having a child who has a disability (Gray, 2003). In addition, there is some evidence, from studies of children with disabilities, that the influence of coping resources on the experience of stress is different among mothers and fathers (Davis & Carter, 2008).

Among the personal and social resources that were previously reported as affecting parents stress and coping are child's acceptance, self-efficacy, and social support. Parents' acceptance of their child is a psychological variable reflecting parents' positive appraisals that serve as an internal personal resource. Acceptance is the ability to take what is offered without trying to avoid experiences (Blackledge & Hayes, 2001). Parenting a child who is D/HH can be a positive experience that leads to positive familial outcomes, such as new insights into family priorities, adopting positive meaning of the child's HL, becoming closer as a family, and gaining a renewed sense of purpose. At the same time, it is unlikely that a child's HL can be completely ameliorated. Thus, in the process of adjusting to having a child who is D/HH, parents might benefit from reaching a state where they can accept their children as they are, as well as the associated difficulties when parenting a child who is D/HH. It has been suggested that acceptance of the child and his or her disability is a positive 'stage' of family adjustment (Blacher, 1984). To our knowledge, no previous research examined the differences in acceptance among mothers and fathers of children who are D/HH or who have other disabilities.

Acceptance might also explain some of the variance in parenting stress. In a recent study, positive correlations were found between acceptance and parenting stress among both mothers and fathers of children with Autism (Jones, Hastings, Totsika, Keane, & Rhule, 2014). Furthermore, interventions that have focused in some way on increasing parents' acceptance supported its positive contribution in reducing psychological distress among parents of individuals with disabilities (e.g., Blackledge & Hayes, 2006; Noone & Hastings, 2009, 2010).

Parenting self-efficacy refers to parents' beliefs about their ability to function competently while raising their children (Coleman & Karraker, 2003; Jones & Prinz, 2005). Self-efficacy has been considered an additional important internal resource (Jerusalem, 1993). However, it has not received much attention as a possible coping resource for parents of children who are D/HH. There is limited research that has examined self-efficacy in parents of children who are D/HH and has found it to be a helpful resource (DesJardin & Eisenberg, 2007).

Previous studies of normative populations reported that fathers and mothers differ regarding parenting self-efficacy. Generally, mothers report higher parenting self-efficacy than fathers (Bouchard et al., 2007; Hudson, Elek, & Fleck, 2001). Self-efficacy research among parents of children who are D/HH has focused solely on mothers (DesJardin & Eisenberg, 2007).

In the general parenting literature, parenting self-efficacy has been identified as a key construct in terms of its relationship to various outcomes, including parenting behaviors and parenting stress (for a review see Coleman & Karraker, 1998; Kwok & Wong, 2000). Specifically, increase in parental self-efficacy has been associated with decreased stress (e.g., Grus et al., 2001; Kwok & Wong, 2000; Hastings & Brown, 2002).

Most researchers addressing self-efficacy have operationalized it in terms of feelings of general competence in their parenting role. A crucial point is that self-efficacy is something that is domain specific (Bandura, 2006); hence, it is likely to vary for different behaviors in different contexts. In the case of parents of D/HH children, *general self-efficacy* refers to the belief about one's ability to function competently as a parent in the context of participation in early intervention. *Specific self-efficacy* refers to a parent's ability to manage the challenges associated with childhood HL, such as taking care of sensory aids or supporting the development of the child's language. Mothers' higher self-efficacy with regards to supporting their child's speech and language development was found to enhance the child's language learning (Desjardin, 2003; DesJardin & Eisenberg, 2007). Thus, it is important to incorporate both general parenting self-efficacy and self-efficacy related to the context of parenting a child who is D/HH.

One of the most-cited social coping resources is parents' social support systems. Social support serves as a protective function by buffering the effects of stressful situations and also by facilitating coping (Cobb, 1976; Stewart, 1993). It also has been identified as a beneficial coping resource that people may draw upon regardless of the presence of a stressor (Cohen, Gottlieb, & Underwood, 2001; Williams, Barclay, & Schmied, 2004). Ecological models of parenting also accentuated that the mothers' care of their children is affected by the supports they received from their environment (Belsky, 1984).

Social support systems can include both formal and informal sources of support. Formal support refers to the network of support that stem primarily from service delivery and professional sources in institutions, such as intervention centers, schools, or social services, whereas informal social support reflects relationships with relatives, friends, and neighbors in one's home or community (Rodrigo, Martín, Máiquez, & Rodríguez, 2007). A recent meta-synthesis on social support among parents of children who are D/HH (Poon & Zaidman-Zait, 2014) indicates that the few studies that have examined sources of social support did not differentiate between formal and informal sources of support, thus limiting knowledge about their possible influences.

Previous findings highlighted differences between fathers and mothers. Specifically, fathers' support systems were found to be less effective than mothers' in terms of improving parents' feelings of competence and minimizing their feelings of pressure (Levy-Shiff, 1999). In view of these earlier findings on mothers' and fathers' differences regarding support systems, the current study aimed to evaluate which and how support systems, both formal and informal, are perceived by both the fathers and the mothers of children who are D/HH.

Wide research supports the notion that social support contributes to families' abilities to cope with challenges and stressors (Dunst & Trivette, 1996). Studies indicated that strong social support systems contributed to parents' adjustment and their well-being (Asberg, Vogel, & Bowers, 2008; Hintermair, 2006; Zaidman-Zait, 2007). Higher levels of social support were associated with lower levels of parental stress and higher levels of life satisfaction (Asberg et al., 2008; Hintermair, 2004, 2006; Lederberg & Golbach, 2002; Pipp-Siegel, Sedey, & Yoshinaga-Itano, 2002). Consistent involvement from family and friends in providing informational, tangible, and emotional support has been found to facilitate parents' coping with parenting their child who is D/HH (Zaidman-Zait, 2007).

Cultural variables have also been pinpointed as impacting the experience of parents in raising their child who has a

disability (Abu-Habib, 1997; Leyser, 1994). However, most of the research examined families of children who are D/HH in the Western world. Yet, the current study variables—perceived stress and coping resources—may be susceptible to sociocultural influences that could affect parental adjustment and children's rehabilitation. Within Israel's multicultural society, the Arab sector comprises 20% of the general population (Israel Central Bureau of Statistics, 2008) and comprises 30% of individuals who are D/HH between the ages of 3 and 21 years, who attend various educational settings (Most, 2006). These high rates among Israeli Arabs call for careful empirical scrutiny in order to design optimal assessments and interventions for these children and their families, with a focus on their possibly unique sociocultural needs.

Against the backdrop of Israel's multicultural society, the Arab sector is unique with respect to their family traditions, values, attitudes, and norms (Cohen & Kirchmeyer, 2005). With regard to parents' gender roles, Israeli Arab men's participation in the workforce is similar to that of the Jewish population, but Arab women's participation is significantly lower (15% vs. 53% of Jewish women). In line with the continued expectation for Arab women to fulfill traditional housekeeping and childcare roles, research has shown that the care of a child with disabilities is considered to be solely the mother's responsibility (Crabtree, 2007; Duvdevany & Abboud, 2003). Crabtree (2007) reported that Arab mothers seem to cope better than fathers with a child with a disability, whereas fathers reported feelings of shame to the point where they did not want to be seen in public with their child. In addition, fathers are not expected to be involved in the care of a child with a disability, although fathers do make the decisions about important matters like medical treatment and education (Abu-Habib, 1997). To the best of our knowledge, there is no existing research examining the perceptions and experiences of parents from the Arab's sector in Israel. In light of the paucity of this research, empirical scrutiny is imperative to enhance policy makers' and other professionals' understanding of possibly unique experiences that Israeli Arab mothers and fathers may undergo.

In summary, knowledge regarding mothers and fathers stress and coping resources would help in promoting family-professional relationship and advancing the effectiveness of the child's intervention. According to the family needs framework for early intervention (Darling & Gallagher, 2004), services should be attentive to the diversity of families and the specific needs of all family members.

The purposes of the current study were twofold: (a) to determine whether mothers and fathers from the Arab sector in Israel report similar or different levels of parenting stress and internal and social coping resources; (b) to examine the relations between maternal and parental internal and social coping resources and their parenting stress levels. We believe that the current study will provide valuable information for planning and implementing interventions that are sensitive to both the father's and the mother's needs and the culture to which the family belongs.

## Method

### Participants

Participants were 30 Arab married couples (father-mother pairs), each with at least one child who is D/HH, from all around Israel. All the parents communicated in spoken Arabic at home with their children. All but two couples were Muslim: one was

Christian and one was Druze. All 30 mothers and 27 (90%) of the fathers had normal hearing; three fathers had HL. Parents and their children's characteristics are described in Table 1.

### Questionnaires

Mothers completed a demographic survey, which collected information about each parent (e.g., age, gender, education) and about the D/HH child (e.g., gender, degree of HL, main communication mode). To assess parenting perceived stress, parental acceptance, parenting self-efficacy (general self-efficacy and self-efficacy specific to child's HL), and parents' perceived social support (both formal and informal), mothers and fathers separately completed self-report questionnaires. Table 2 presents a description of these questionnaires.

To create an accurate Arabic translation of the Hebrew-language questionnaire set, all questionnaires underwent a back-and-forth translation process from Hebrew to Arabic and back to Hebrew for the purpose of this study. Two bilingual speakers of Hebrew and Arabic each separately translated the questionnaires from Hebrew to Arabic. Next, they met to compare versions and discuss differences until reaching consensus. This version was translated back from Arabic to Hebrew by another bilingual Hebrew and Arabic speaker.

### Procedure

After receiving approval for the study by the Israeli Ministry of Education Head Scientist Ethics Boards and after obtaining participants' consent, parents were recruited through rehabilitation

centers and schools throughout the country that children who are D/HH attended. The questionnaires were distributed to the parents by professionals working with them (teachers, speech and language therapists). Parents were instructed that the study aimed to improve the services they receive and that their participation was voluntary and anonymous. The parents who had more than one child who is D/HH were instructed that only the child within the ages of 3–8 years was the targeted focus of their questionnaire responses. The parents completed the questionnaires in their own free time and returned them in a sealed envelope to their professional contact in the center/school, who then submitted them to the researchers. Out of the 111 questionnaires that were distributed, 47 were returned (42.34% response rate). Out of these 47 questionnaires, 30 (27.02%) were completed by both parents, and these 30 comprised the database for the current study in order to investigate differences between mothers and fathers in line with the study objectives. The remaining 17 questionnaires were excluded from the current analyses because 11 were completed only by the mother and 6 were missing significant data.

### Data Analysis

To account for the interdependence of data within families while examining differences between fathers and mothers regarding their perceived stress and coping resources, a series of mixed-model repeated-measures analyses of variance (ANOVAs) were conducted. Mixed-model repeated-measures ANOVAs were conducted separately for each of the dependent variables. In each of the models, the parent's gender (father, mother) was used as the

Table 1. Parents' and children's characteristics

Parents' characteristics	Mothers (n = 30)	Fathers (n = 30)
Age	M = 36.33 (SD = 5.89)	M = 37.73 (SD = 5.02)
Highest level of education completed		
Elementary school education	—	4 (13.3%)
High school education	20 (67%)	16 (53.3%)
Vocational education	—	2 (6.6%)
University/college education	10 (33%)	8 (26.6%)
Employment status		
Employed	8 (26.7%)	27 (90%)
Unemployed	22 (73.3)	3 (10%)
Number of D/HH children in family		
One child		22 (73%)
Two children		6 (20%)
Three children		2 (7%)
Child characteristics		
Age (years)	M = 5.7 (SD = 1.63; range = 3–8 years)	
Gender		
Female		15 (50%)
Male		15 (50%)
Age of identification		
≥12 month		14 (46.7%)
<12 month		15 (50%)
Missing data		1 (3.3%)
Degree of hearing loss		
Mild to moderate		12 (40%)
Severe to profound		18 (60%)
Communication		
Spoken Arabic		27 (90%)
Spoken Arabic and signs		3 (10%)
Additional disabilities (minor)		4 (13%)

Note. D/HH = deaf or hard of hearing; M = mean; SD = standard deviation.

**Table 2.** Description of parents' self-report questionnaires

Measure	Construct	Source	Number of items	Questionnaire scale	Cronbach's alpha
Parenting perceived stress	Parenting stress in the context of having a D/HH child	The family stress scale from the Impact of Hearing Loss on the Family questionnaire developed by <a href="#">Meadow-Orlans (1990)</a>	8-item scale (e.g., "Much of the stress in my family is related to deafness.")	A 4-point Likert-type scale ranging from 1: strongly disagrees (1) to strongly agree (4). Higher mean score reflects a higher stress level.	$\alpha = .72$
Parental acceptance	Parents' feelings of acceptance toward their D/HH child	Parental Acceptance Questionnaire developed for parents of children with disabilities by <a href="#">Weisbol (1973)</a>	30-item scale (e.g., "Parents think that it's not necessary to tell relatives what is wrong with their child")	A 5-point Likert scale ranging from strongly agrees (1) to strongly disagree (5). Higher score reflects higher degree of acceptance of their child who is D/HH.	$\alpha = .85$
Parenting self-efficacy: General	General parenting self-efficacy in the context of early intervention	Early Intervention Parental Self Efficacy Scale ( <a href="#">Guimond, Wilcox, &amp; Lamorey, 2008</a> )	16-item scale (e.g., "If my child encounters difficulties, I can think of a number of ways in order to help him/her")	A 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). Higher score reflects higher level of sense of self-efficacy.	$\alpha = .67$
Parenting self-efficacy	Parenting self-efficacy with specific reference to the child's HL (i.e., the child's sensory aids and speech/language development)	Scale of Parental Involvement and Self-Efficacy ( <a href="#">Desjardin, 2003</a> ). In the current study we used only the parents' self-efficacy part which includes two subscales: a. Speech and language self-efficacy subscale assessing the extent to which parents feel they possess the knowledge and ability to help develop their child's speech and language b. Sensory aid self-efficacy subscale assessing the extent to which parents feel they possess the knowledge and ability to use and maintain the child's sensory aid	a. 5-item scale (e.g., "To what degree do you feel that you can positively affect your child's language development?")	A 7-point Likert scale ranging from not at all (1) to a lot (7). Higher score reflects higher level of sense of self-efficacy.	a. $\alpha = .93$
			b. 5-item scale (e.g., "To what degree do you feel that you know about and are able to check and put on your child's hearing aids or cochlear implants on a daily basis?")	A 7-point Likert scale ranging from not at all (1) to a lot (7). Higher score reflects higher level of sense of self-efficacy.	b. $\alpha = .85$
Support systems	Parents' perceived formal and informal social support	Support System Questionnaire ( <a href="#">Dunst, Jenkins, &amp; Trivette, 1984</a> ). The instrument consisted of two subscales: a. Formal support b. Informal support	a. 9-item scale (e.g., "What is the degree of support you receive/d from the preschool teacher?")	A 6-point Likert-type scale ranging from does not exist (0) to helps a lot (5). Higher score reflects higher level of perceived formal social support.	a. $\alpha = .77$
			b. 14-item scale (e.g., "What is the degree of support you receive from your spouse?")	A 6-point Likert-type scale ranging from does not exist (0) to helps a lot (5). Higher score reflects higher level of perceived informal social support.	b. $\alpha = .84$

Note. D/HH = deaf or hard of hearing.

repeated-measures variable. To protect the error rate for these multiple analyses, a Bonferroni correction was applied, adjusting the value of alpha to 0.01, based on our five ANOVAs. In order to assess the possible effect of parents' education on dependent variables, we calculated Pearson correlations between all dependent variables and both mothers' and fathers' education levels. None of the correlations was significant. Hence, parents' education levels were not included in our models.

## Results

Table 3 presents mothers' and fathers' mean scores and standard deviations for the study variables including parental perceived stress, parental child's acceptance, parental self-efficacy (general and specific to HL), and support systems (informal and formal). As can be seen in Table 3, in general, a moderately negative impact of the child who is D/HH on parenting stress was reported (mothers 1.78, fathers 2.15, out of a range of 1–4); the mean score for self-reported acceptance of the child who is D/HH was high (mothers 4.2, fathers 4.3 out of a range of 1–5). In addition, overall, the mean score for self-reported general and specific parenting self-efficacy scales were in the higher range (between 4 and 5 out of a range of 1–7). Finally, the mean score for perceived formal parental support was high (3.09), whereas the mean score for informal parental support was low (1.92 out of a range of 0–5).

The mixed-model repeated-measures ANOVAs revealed no significant main effect of parent's gender on parent's perceived stress,  $F(1, 29) = 0.6, p > .05$ , partial  $\eta^2 = .02$ , or on the first parental coping resource examined, parental acceptance  $F(1, 29) = .01, p > .05$ , partial  $\eta^2 = .00$ .

The second parental coping resource examined was parenting self-efficacy including general self-efficacy and specific self-efficacy with regards to the HL of the child. In terms of general self-efficacy, the analysis revealed a significant main effect of parent's gender,  $F(1, 29) = 4.90, p < .001$ , partial  $\eta^2 = .15$ ; fathers' 95% confidence interval (CI) [4.55, 4.99], mothers 95% CI [4.75, 5.21], indicating that mothers' general self-efficacy was higher than that of fathers. Similarly, mothers reported higher specific self-efficacy to HL than fathers (i.e., in both efficacy regarding sensory aids and efficacy regarding language development),  $F(1, 29) = 12.80, p = .001$ , partial  $\eta^2 = .31$ ; fathers 95% CI [3.93, 5.20], mothers 95% CI [5.17, 5.93]. No significant main effects emerged for type of self-efficacy or for two-way interactions (all  $ps > .05$ ).

The third coping resource examined was perceived social support (including formal and informal). The analysis revealed a significant main effect for type of support,  $F(1, 29) = 105.92, p < .001$ , partial  $\eta^2 = .78$ , informal social support 95% CI [1.54, 2.13], formal social support 95% CI [2.77, 3.46], indicating that parents perceived higher levels of formal than informal support. No

significant main effect was obtained for parent's gender or no significant two-way interactions were found,  $p > .05$ .

Next, we examined the associations between coping resources and perceived stress separately for mothers and fathers. Correlations among these measures are reported in Table 4. As can be seen, acceptance and general self-efficacy were significantly negatively correlated with stress among both mothers and fathers, with higher acceptance and higher sense of general self-efficacy associated with lower stress levels. Interestingly, specific self-efficacy with regards to HL was not associated with parents' stress levels. Among mothers, formal social support was also significantly correlated with stress, with higher formal support associated with lower stress.

Last, we explored the effect of child's characteristics, including child's age, gender, degree of HL, type of sensory aid, and educational inclusion setting on mothers' and fathers' study variables. Only child's age significantly negatively correlated with mothers' and fathers' specific self-efficacy regarding child's sensory aids ( $r = -.44^*$  and  $r = -.40^*$ , respectively,  $p < .05$ ) and general self-efficacy ( $r = -.37^*$ ,  $p < .05$ , and  $r = -.35^*$ , respectively,  $p = .05$ ). In addition, both mothers and fathers of girls reported higher perceived informal social support [ $t(19.16) = -2.31$  and  $t(28) = -2.99$ , respectively,  $p < .05$ ] and only fathers of girls reported higher perceived formal support [ $t(22.93) = -2.92, p < .05$ ].

## Discussion

The present research aimed to examine whether mothers and fathers report similar or different levels of parenting stress and internal and social coping resources. The results of the study add to the paucity of research examining differences between mothers and fathers of children with disabilities in general and of children who are D/HH in particular. The results showed that both parents reported similar, moderate levels of parenting stress. The comparable level of parenting stress among mothers and fathers is consistent with number of studies examining parenting stress in the context of parenting children with disabilities (Davis & Carter, 2008; Hastings et al. 2005), as well as one study of parents of children who are D/HH (Meadow-Orlans, 1994). The current findings might support the 'spillover' process (Erel & Burman, 1995), where the experience of stress of one partner in the relationship (i.e., mother) transfers directly to the other person (i.e., father). It is suggested that these interpersonal processes within the family should be further examined in future studies.

The lack of differences between mothers and fathers regarding level of stress might stem from the quantitative nature of the current findings, which could not account for differing

Table 3. Mothers' and fathers' mean scores and standard deviations for parental stress, self-efficacy general, self-efficacy HL, and support systems

	Mothers (n = 30)		Fathers (n = 30)		
	M	SD	M	SD	
Self-efficacy	Family stress	1.91	0.56	1.99	0.62
	Acceptance	4.33	0.39	4.33	0.45
	General	4.98	0.62	4.77	0.60
	Language development	5.55	1.03	4.60	1.75
	Sensory device	5.55	1.17	4.53	1.83
Support systems	Informal	1.76	0.86	1.92	0.81
	Formal	3.13	1.03	3.09	0.93

Note. M = mean; SD = standard deviation.

**Table 4.** Correlations between parenting stress and coping resources among mothers and fathers

		Stress	
		Mothers	Fathers
Self-efficacy	Acceptance	-.40*	-.61**
	General	-.51**	-.62**
	Language development	-.25	-.11
	Sensory device	-.21	-.21
Support systems	Informal	-.36	-.33
	Formal	-.41*	-.31

\* $p < .05$ ; \*\* $p < .001$ .

sources of stress. In the present study, as typical in Arab society, the majority of the mothers (73.3%) did not work and were considered primary caregivers, whereas most of the fathers (90%) did work and were considered breadwinners for the family. The extra burden of taking care of a child who is D/HH for the mother and the extra work for the father needed to cover the child's heavy expenses may well be a salient contributor toward parental stress. Future research is needed to explore the contribution of various sources of stress, such as distribution of responsibilities among both mothers and fathers. Additional research is needed to understand the extent to which discrepancy across studies regarding differences in stress between mothers and fathers related to differences in sample characteristics, measures used, or analytic strategy.

In terms of parents' personal coping resources, findings indicated both similarities and differences between mothers and fathers. The findings indicated no significant differences with regard to their internal coping resource of acceptance of their child who is D/HH. The similar and high acceptance levels by both parents might be explained by the parents' Muslim background. Islamic principles forbid discrimination of individuals with disabilities and require compulsory support and encouragement for people who need help (Gaad, 2001). Future researchers may wish to examine the level of Islamic religious observance as linked to parental acceptance of the child who is D/HH.

At the same time, differences were found between mothers and fathers sense of self-efficacy. Specifically, mothers' reported higher levels of parenting self-efficacy than fathers. One plausible explanation is mothers' prominent involvement in the daily care of their children. Mothers' frequent interactions with their children and participation in their intervention program might increase their sense of self-efficacy in general and self-efficacy as related to specific tasks in treating their children who are D/HH. This finding substantiated previous research on parents of typically developing children (e.g., Bouchard et al., 2007; Hudson et al., 2001).

Regarding social coping resources, although mothers and fathers reported similar social support levels, both mothers and fathers reported the availability of greater formal than informal support. This finding did not substantiate prior research on the general Arab population that highlighted informal social supports as the main source of well-being at times of stress (Abudabbeh, 1996) and among mothers of children with mental disability in the Arab sector in Israel (Duvdevany & Abboud, 2003). These conflicting findings may be related to the pronounced need of parents of children who are D/HH to obtain considerable amount of specialized professional information and guidance about the child's HL, its effect on development, the

rehabilitation process, and sensory aids. In particular, parents of D/HH children often need to make early medical and rehabilitative decisions, which require close consultation and support from specialized professionals. Not surprising, in line with this particular need for professional assistance to manage the child's HL, Lederberg and Golbach (2002) found as well that mothers of D/HH children receive more formal support from professionals, whereas mothers of children with normal hearing receive more informal support from relatives and friends. In future studies, it is also important to consider separately the various functions of social support (e.g., financial, tangible, emotional) parents received from both informal and formal sources (Poon & Zaidman-Zait, 2014). It might be that differences between formal and informal support systems are determined by the specific support function that is provided. For example, parents perceived higher emotional support from informal sources while getting more informational support from formal sources.

An additional purpose of the current study was to examine the relations between maternal and parental internal and social coping resources and their parenting stress levels. Similar to previous findings, the patterns of associations between coping resources and perceived stress among fathers and mothers indicated both similarities and differences (Davis & Carter, 2008; Hastings et al., 2005; Jones, Totsika, Hastings, & Petalas, 2013). Specifically, among both mothers and fathers higher levels of personal coping resources, including child acceptance and general parenting self-efficacy, were associated with lower levels of parenting stress. Our findings regarding the contribution of self-efficacy to lower levels of parenting stress are consistent with previous studies (e.g., Grus et al., 2001; Hastings & Brown, 2002; Kwok & Wong, 2000). This in turn emphasizes the importance of targeting self-efficacy of both mothers and fathers in intervention programs for children who are D/HH and their families. This coincided with the principles of family-centered care, which make explicit reference to the importance of including the child's family in the intervention program aiming to enhance both child and parent outcomes (Dunst, 2000). An encouraging finding for professionals working with families is that through a one-day workshop, parents of children with autism reported increased self-efficacy compared with control groups (Sofronoff & Farbotko 2002). Thus, it is possible to intervene and increase parenting self-efficacy and even decrease parenting stress. A second personal coping resource that was associated with parenting stress among both mothers and fathers is child's acceptance. This relation was also found among mothers and fathers of children with autism (Jones et al., 2014). It might be that participating in an intervention program specialized in children who are D/HH helped parents in the process of adjustment and acceptance of their children. In addition, the fact that relatively long duration passed since the children's HL diagnosis meant that parents achieved resolution with the child's HL. According to Pianta, Marvin, Britner and Borowitz (1996), parents who have reached resolution with respect to the diagnosis of their child usually express positive changes in their feelings in response to the diagnosis over time.

At the same time, social coping resources were associated with lower parenting stress levels only among mothers. This finding is similar to previous studies on mothers of children who are D/HH (e.g., Asberg et al., 2008; Lederberg & Golbach, 2002), where social support was related to parents' appraisal of stress. The lack of similar association among fathers might be explained by the notion that only specific functions, sources, and dimensions of social support are associated with lower levels of parenting stress (Asberg et al., 2008; Guralnick, Hammond, Neville & Connor, 2008;

Lederberg & Golbach, 2002). For example, the only social support dimension that predicted parenting related stress among mothers of children with developmental delay was parenting support (i.e., amount of and satisfaction with support specific to advice about problems with their child with a developmental delay) and not general support (Guralnick et al., 2008). Hence, fathers might find different dimensions of support to be meaningful.

In the current study, two child characteristics were associated with parents coping resources. The first one was the child's age. Findings indicated that as children grew older, parenting self-efficacy regarding child's sensory aids and general self-efficacy decrease. Perhaps, as a result of the possible increased gap in skills between the child and his/her hearing peers, parents feel less competent and influential. For example, a gap in the area of spoken language can become a great burden on parents and may have an increasing impact on parenting self-efficacy. One may speculate that the case of the Arabic language may present particular challenges for children who are D/HH. As typical for diglossic communities, Israeli Arabs are using spoken Arabic for everyday informal oral speech, whereas standard Arabic is reserved for reading, writing, and formal language use, even among young children (Ibrahim & Aharon-Peretz, 2005). In diglossic Arabic, children naturally acquire the spoken vernacular through informal exposure in their immediate environment, whereas standard Arabic is primarily acquired formally in the school context (Ayari, 1996). Thus, in Arab society, entry to school may exacerbate language issues for both the D/HH child and the parents. In all, parenting self-efficacy in the Arab sector in Israel should receive more empirical attention to identify its antecedents and outcomes among mothers and fathers. An additional explanation might be related to the transition from early intervention, which is a largely child-centered education system, into the school system, where the focus on the family is largely absent (Jamieson, Zaidman-Zait, & Poon, 2011). Moving to the child-centered education system might reduce the amount of guidance and support provided to families, which in turn can hinder parents' sense of self-efficacy.

The second child characteristic that influenced parents coping resource was the child's gender. Specifically, differences were found in social support for parents of girls versus parents of boys. Parents of girls who are D/HH reported more support than parents of boys. These findings may be a result of the tendency in Arab culture to perceive females with disabilities as more inferior than males with disabilities (Abu-Habib, 1997), thereby requiring more support.

In summary, the present research revealed significant differences between Arab mothers and fathers of children who are D/HH, in the areas of parenting self-efficacy and in the social coping resources that are associated with their parenting stress levels. Both parenting stress and self-efficacy are essential factors for families and children's well-being and healthy development. Future research should further explore this topic with a larger sample while taking into account other variables such as a different religion background. In addition, future research should explore the impact of mothers' and fathers' stress and coping resources on their children's language development and well-being. It should be noted that the present research was conducted with Israeli Arabs who might have different characteristics as a culture group than Arabs in other countries. Findings highlighted the importance of measuring the perspectives of both fathers and mothers, emphasizing the dynamic and interdependent nature of the family unit. Furthermore, current results indicated the need to distinguish various sources and functions of social support in examining family's needs.

In order to improve services for the child and the family and enhance the child's rehabilitation outcomes, when designing intervention programs for children who are D/HH, it is important to consider differences between mothers and fathers and to relate them to the special needs of each parent and each parent's cultural background.

## Conflicts of Interest

No conflicts of interest were reported.

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