Mothers’ and fathers’ involvement in intervention programs for deaf and hard of hearing children

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Mothers’ and fathers’ involvement in intervention programs for deaf and hard of hearing children

Anat Zaidman-Zait, Tova Most, Ricardo Tarrasch and Eliana Haddad

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ABSTRACT

Purpose: Parental involvement in the rehabilitation process of deaf and hard of hearing (DHH) children is considered vital to children's progress. Today, fathers are more likely to be involved in their children’s care. Nevertheless, father involvement has been understudied and relatively little is known about their involvement in families with children who are deaf or hard of hearing. In addition, there are scant data on the correlates of parents’ involvement. This study explored similarities and differences in parental involvement between mothers and fathers in intervention programs for their D/HH children and tested a set of personal and social contextual variables that posited to affect parental involvement in a unique socio-cultural group.


Results: Mothers were significantly more involved than fathers in their child's intervention. Specifically, they report on higher interest and attendance and overall being more actively engaged with professionals in the child's intervention. Both mothers and fathers had a rather passive style of involvement in their child's intervention. Parental self-efficacy and informal and formal social support were associated with fathers' involvement. For mothers, only formal social support was associated with involvement.

Conclusion: For the Israeli-Arab population, the findings underscore the differences between mothers’ and fathers’ multiple dimensions of involvement in the intervention program of their D/HH children and their predictors. The results suggest important avenues for prevention and intervention activities when working with families of children who are D/HH.

IMPLICATIONS FOR REHABILITATION

- Parental involvement in intervention programs for children who are deaf or hard of hearing (D/HH) is vital to children’s progress and an essential component of implementing family-centered service provision.
- Understanding of both mothers and fathers multiple dimensions of involvement and the factors that facilitate or hinder their parental involvement in their children's intervention programs, will equip professionals to better support parents of D/HH children aligned with the principles of family centered care service delivery.
- Mothers and fathers style of involvement reflects on gaps between the goals of family centered care and their implementation in the realities of everyday practice.
- The experiences and behaviors of mothers and fathers should not be seen as interchangeable.

Introduction

Researchers interested in the positive influence of intervention for children with disabilities have highlighted the important role of parental involvement [1]. Numerous studies have demonstrated that parental involvement yields positive results for children’s developmental and educational outcomes [2,3] and for mothers’ positive psychological variables, such as reduced stress and increased self-efficacy [4]. Parental involvement in intervention programs improves professionals’ understanding of the child and his/her home environment, enhances home–school communication, and increases the generalization of child skills across school and home [1,5].

Parental involvement is a broad term that encompasses a variety of activities involving parents and children throughout their interactions at home and in the various educational settings children attend [6]. Korfmacher et al. [7] conceptualized parental involvement as a multidimensional construct that includes the family’s active participation in the intervention program, the style of intervention that families receive, the quality of interactions and relationship they establish with the program professionals, and the way the family feels about the services they receive.

In the case of children who are deaf or hard of hearing (D/HH) as well, parental involvement in the rehabilitation process is considered vital to the child’s progress [8,9]. As soon as the child is diagnosed with hearing loss, parents can enroll in an intervention
program, in which they are expected to play an active part in the child's rehabilitation [10,11]. Parents are immediately required to become knowledgeable about the nature and the effects of their child's hearing loss. They need to make a multitude of choices regarding amplification devices, preferred communication mode, and educational alternatives [12]. In addition, they must learn to interact with health care and intervention professionals, advocate for themselves and for their child, and, at the same time, try and meet the daily needs of their family.

Maternal involvement in D/HH children's intervention program was shown to be positively related to children's language development [13] and parental involvement in D/HH education programs improved reading skills [8]. A study of parents of D/HH children indicated that parental involvement in intervention programs is best described by parents' active participation and interest in their child's intervention, on-going communication and interactions with professionals, taking responsibilities and initiatives regarding their child's therapeutic process, and establishing social relationships with other families [14]. Although parental involvement in children's intervention programs is acknowledged to be a highly important, there is paucity of research examining parental involvement among D/HH children. In particular, there are scant data on parental involvement in mothers and fathers.

Today, with the penetration of women into the labor market, fathers are more likely to be involved in their children's care [15,16]. Despite reports of increasing father involvement, most research has focused solely on maternal involvement [13]. The paucity of studies that have examined differences in parental involvement among mothers and fathers of children with other disabilities demonstrated increased levels of maternal involvement compared with parental involvement [17]. Given the lack of up-to-date research comparing mothers' and fathers' involvement in the treatment of their D/HH child, the current study focused on both parents' involvement. It also examined personal and social factors potentially impacting parental involvement.

To conceptualize how personal and social contextual variables impact parental involvement, Belsky's process model of the determinants of parenting [18] was employed. According to this model, there are distinct areas that delineate parenting functioning including childrearing strategies and parenting behaviors while interacting with their children (e.g., responsiveness), including the personal characteristics of the parent, the social contextual influences of stress and support, and the child's characteristics. Given that parental involvement is a specific component of parenting behaviors, it is reasonable to assume that these determinants of parenting have a comparable influence on parental involvement.

In terms of parental characteristics, it was suggested that parents' emotional state might affect their involvement in their child's intervention program [10]. However, no studies have looked at the relationship between parenting stress and parental involvement among parents of children who are D/HH. Parents of D/HH children face a variety of unique demands and long-term challenges in raising their children, which can create elevated levels of parenting stress [19,20]. Parenting stress can arise when parents' perceptions of the demands of parenting outstrip their coping resources [21]. Previous studies consistently indicate that hearing parents of children who are D/HH report increased stress in comparison to parents of children without a hearing loss [22]. In addition, parenting stress might affect parents' abilities to implement interventions to help their children [23] and has a negative influence on care giving behaviors [24]. While not specific to the families of children who are D/HH, a positive relation between parenting stress and parental involvement was found among parents of children diagnosed with autism spectrum disorders [17].

Parental self-efficacy is often considered crucial to parental involvement. This concept refers to parents' beliefs about their ability to function competently while raising their children [25]. Parents' sense of self-efficacy is likely to influence involvement in intervention. For example, high parental self-efficacy was associated with maternal responsiveness to typical toddlers' developmental needs [26], positive parenting of kindergarten children [27], and parental involvement and monitoring of adolescents [28]. Low parental self-efficacy, on the other hand, has been associated with negative parenting, such as love withdrawal [27] and a tendency to give up easily when faced with parenting challenges [29]. Parental self-efficacy has also been associated with increased involvement in home learning activities, such as reading, playing, and everyday household activities [30]. Parents' self-perceived knowledge and skill were found to greatly influence their ability to help their typically developing children with school related issues [31]. Parents who have confidence in their ability to help their children are more likely to be involved in their children's education [32].

To date, only a few studies have examined the relationship between parental self-efficacy and parental involvement among parents of children who are D/HH. Ingber and Most [33] reported that increased fathers' parental self-efficacy was associated with higher levels of involvement in the daily activities of their D/HH children.

A social contextual factor that also impacts parental involvement is the social support that parents receive from others. Studies indicated that strong social support systems contributed to the adjustment and functioning of parents of D/HH children [34–36]. Social support systems can include both formal and informal sources. Formal support refers to the network of support that stems primarily from service delivery and professionals, whereas informal social support reflects relationships with relatives, friends, and neighbors in one's home or community [37]. In terms of formal support, parents have reported a pronounced need for professional assistance and guidance regarding their child's hearing loss [18]. Coincidently, the provision of formal support is one of the core principles of family-centered approach [38]. Involvement both at school and at home, among mothers of children with autism spectrum disorders, was heavily influenced by the extent to which professional at school actively encouraged and assisted mothers' involvement [39]. Informal support has also been perceived as highly important for parents [35], although, variation was apparent in parents' perceptions of the quality of various sources of support [40]. A recent meta-synthesis on social support among parents of D/HH children indicated 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 on parents' functioning and adjustment — accordingly, being able to provide specific directions for intervention [41].

A small number of studies have examined the beneficial effects of social support on parent involvement [10,39]. Ingber et al. [10] reported that mothers of D/HH children with greater perceived informal social support were more involved in their children's intervention programs. Similarly, mothers' higher levels of perceived social support predicted higher levels of parental school-based involvement among mothers of children with autism [39]. This limited body of research suggests that social support promotes parental involvement by providing parents with the psychosocial and instrumental resources needed to be actively involved in their children's intervention, and allows parents to
better manage the countervailing stressors and demands placed upon them.

Previous research has indicated that contextual cultural background affects the ways and extent to which parents of children with disabilities participate in their children’s intervention programs [42,43]. Most research on parenting D/HH children has examined families in the Western world. Yet, mothers’ and fathers’ involvement in intervention may be susceptible to socio cultural influences that could affect their children’s rehabilitation.

Within Israel’s multicultural society, the Arab sector comprises 20% of the general population [44], but represents 30% of all D/HH students in Israel between the ages of 3–21 years [45]. This high incidence of hearing loss among young Israeli Arabs calls for careful empirical scrutiny to design optimal interventions for these children and their families. The Arab sector of Israel can be considered unique with respect to family traditions, values, attitudes, and norms [46]. 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 [47,48]. 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 such as medical treatment and education [49]. To the best of our knowledge, no study has examined differences in parental involvement among mothers and fathers from the Arab sector in Israel. According to the family needs framework for intervention services, there is a need to be attentive to the cultural diversity of families and their specific needs [15].

Thus overall, the purpose of the current study was threefold: (1) to test for similarities and differences between mothers and fathers of children who are D/HH in terms of their parental involvement behaviors in their D/HH child’s intervention program; (2) to examine differences across parental involvement domains within both mothers and fathers; and (3) to examine the associations between mothers’ and fathers’ parental self-efficacy, parenting stress, informal and formal social support and their parental involvement in their children’s intervention programs.

We hypothesized the following:
1. Mothers will report higher levels of parental involvement behaviors than fathers.
2. Levels of parents’ involvement behaviors will be different from one another, depending on the specific involvement activities.
3. Positive correlations will emerge between parenting self-efficacy, social support and mothers’ and fathers’ involvement.

Method

Participants

Participants were 30 Israeli Arab married couples (father–mother dyads), each with at least one child who is D/HH. 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. All parents communicated in spoken Arabic at home with their children. All participants’ children were enrolled at one of D/HH intervention centers throughout Israel. These centers provided the same Kesher intervention programs for children whose hearing loss is identified early in life. The intervention services are provided by public and private agencies and are designed by law to support eligible children and families in enhancing children’s potential for growth and development from birth to enrollment in educational setting at grade one. The parents and their children’s demographics are listed in Table 1.

![Table 1. Parents’ and children’s demographics.](image)

<table>
<thead>
<tr>
<th>Parents’ characteristics</th>
<th>Mothers (n = 30)</th>
<th>Fathers (n = 30)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>M = 36.33</td>
<td>M = 37.73</td>
</tr>
<tr>
<td>(SD = 5.89)</td>
<td>(SD = 5.02)</td>
<td></td>
</tr>
<tr>
<td>Level of education:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary school education</td>
<td>–</td>
<td>4 (13.3%)</td>
</tr>
<tr>
<td>High school education</td>
<td>20 (67%)</td>
<td>16 (53.3%)</td>
</tr>
<tr>
<td>Vocational education</td>
<td>–</td>
<td>2 (6.6%)</td>
</tr>
<tr>
<td>University/college education</td>
<td>10 (33%)</td>
<td>8 (26.6%)</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employed</td>
<td>8 (26.7%)</td>
<td>27 (90%)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>22 (73.3%)</td>
<td>3 (10%)</td>
</tr>
<tr>
<td>Number of D/HH children in family</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One child</td>
<td>22 (73%)</td>
<td></td>
</tr>
<tr>
<td>Two children</td>
<td>6 (20%)</td>
<td></td>
</tr>
<tr>
<td>Three children</td>
<td>2 (7%)</td>
<td></td>
</tr>
<tr>
<td>Child’s characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>M = 5.7 (SD = 1.63; Range 3–7 years)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>15 (50%)</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>15 (50%)</td>
<td></td>
</tr>
<tr>
<td>Age at identification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥12 month</td>
<td>14 (46.7%)</td>
<td></td>
</tr>
<tr>
<td>&lt;12 month</td>
<td>15 (50%)</td>
<td></td>
</tr>
<tr>
<td>Degree of hearing loss</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mild to moderate</td>
<td>12 (40%)</td>
<td></td>
</tr>
<tr>
<td>Severe to profound</td>
<td>18 (60%)</td>
<td></td>
</tr>
<tr>
<td>Amplification</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hearing aids</td>
<td>16 (53.3%)</td>
<td></td>
</tr>
<tr>
<td>Cochlear implant</td>
<td>14 (46.7%)</td>
<td></td>
</tr>
<tr>
<td>Communication</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spoken Arabic</td>
<td>27 (90%)</td>
<td></td>
</tr>
<tr>
<td>Spoken Arabic &amp; signs</td>
<td>3 (10%)</td>
<td></td>
</tr>
<tr>
<td>Additional challenges*</td>
<td>4 (13%)</td>
<td></td>
</tr>
</tbody>
</table>

*Additional challenges include asthma, separation anxiety, attention difficulties, and sensory regulation sensitivity.

Measures

Both mothers and fathers completed self-report questionnaires on parenting stress, parental self-efficacy, support systems, and parental involvement. An additional demographic questionnaire was completed only by the mothers. To obtain an accurate Arabic translation of the English-language questionnaires, all questionnaires underwent a back-and-forth translation process [50].

Demographic background

Background information was collected on each parent (e.g., age, gender, education) and on the D/HH child (e.g., degree of loss, onset of hearing loss, use of sensory aids, main communication mode).

Parental involvement

To assess the involvement of parents in the intervention program of their D/HH child, the Parental Involvement Questionnaire [10] was used. This questionnaire was designed in order to identify parental behaviors that typify family involvement in early intervention programs for children with hearing loss. It consists of 23 items in five subscales: Interest and attendance (e.g., “I am always concerned about my child’s attendance in the program”); communication style between parents and professionals (e.g., “I am in constant contact with my child’s therapist”); initiation and responsibility describes parental activities reflecting their initiation and taking responsibility for the therapeutic process (e.g., “I participate in my child’s assessment”); active collaboration describes parental activities that promote basic involvement with professionals (e.g., “I examine professionals’ recommendations”); and social involvement – describes parental activities related to initiating contact and participating in activities with other families (e.g., “I am..."
willing to support other families"). Parents rated each item using a 5-point Likert scale ranging from Never (1) to Always (5). The questionnaire was found to be reliable, with supporting evidence for its construct validity [10]. Internal reliabilities (α) for the subscales in the original measure were 0.53–0.71. The current internal reliabilities (α) for the subscales were 0.79–0.84 (fathers), and 0.65–0.77 (mothers).

Parenting stress
In order to assess parenting stress in the context of a child who is D/HH, the stress scale from the Impact of Hearing Loss on the Family questionnaire was used [51]. The stress scale measures difficulties that the parents may encounter in parenting a child with hearing loss. It consists of 8-item (e.g., “Much of the stress in my family is related to deafness.”). Parents rated each item on a 7-point Likert-type scale ranging from 1 to 4. Higher mean scores reflect a higher stress level due to the impact of hearing loss on the family. Internal reliability of the original scale was α = 0.71 [51]. The current internal reliability was α = 0.67 (mothers), α = 0.64 (fathers).

Parental self-efficacy
The Early Intervention Parental Self Efficacy Scale (EIPSES) [52] was employed. EIPSES as designed to measure whether parents feel competent and confident in their skills, knowledge, and the ability employed. EIPSES as designed to measure whether parents feel

To assess the effectiveness of the support families received, the Support System Questionnaire was used [53]. The FSS measures the degree to which different sources of support have been helpful to families in rearing young children with disabilities. The instrument consists of 23 items divided to two subscales: formal support (9 items, e.g., “What is the degree of support you received from the preschool teacher?”) and informal support (14 items, e.g., “What is the degree of support you receive from your spouse?”). Parents rated each item on a 6-point Likert-type scale ranging from “Does not exist” (0) to “Helps a lot” (5). Reliabilities of internal consistency of the original scale total score was α = 0.77 [53]. The current internal consistency reliabilities were as follows: (a) formal support scale α = 0.79 (mothers), α = 0.72 (fathers); (b) informal support scale, α = 0.84 (mothers), α = 0.83 (fathers).

Procedure
Ethical approval was obtained from the Israeli Ministry of Education Ethics Board. Parents were recruited through intervention centers that serve D/HH children. The questionnaires were distributed to the parents by professionals working with them.

Results
Preliminary analysis
In order to assess departures from normality, data plots were visually inspected, and skewness and kurtosis were calculated and compared to their standard errors [54]. Based on Tabachnick and Fidell [55], values of skewness or kurtosis larger (in absolute values) than 1.96 standard errors, indicate departures from normality. Among the 18 variables assessed (9 among fathers and 9 among mothers), only informal support among mothers showed a significantly skewed distribution (based on Tabachnick and Fidell [55]), but with normal values of kurtosis. Accordingly, the data were analyzed using parametric statistics.

Table 2 presents mothers’ and fathers’ mean scores and standard deviations for the study variables. To examine whether the pattern of parent involvement was similar between fathers and mothers, we conducted profile analysis. This analysis compares profiles of group measures on several different scales simultaneously. It includes tests of parallelism, a level test, pair-wise comparisons, and a flatness test. The test of parallelism (interaction in repeated-measures ANOVA) examined whether the overall shape of the curve representing the means across the various involvement subscales for mothers and fathers was identical. The level test compared fathers’ and mothers’ involvement by averaging across the different involvement subscales. Pair-wise comparisons tested for differences for each of the involvement subscales between mothers and fathers. Finally, the test of flatness compared the mean scores across the involvement subscales (beyond fathers and mothers). The rationale and detailed explanations for these statistical procedures can be found in Tabachnick and Fidell [55]. Our analysis was based on a fully within subjects design (scales within each parent) and gender of parent (mother vs father) within each family (to account for the fact that mothers and fathers are a “pair” around a single child).

Figure 1 presents the results of the profile analysis. As can be seen in the figure, a relatively similar overall shape emerged for the profiles for both fathers and mothers. The parallelism hypothesis was marginally significant (F(4,116) = 2.09, p = 0.086, η² = 0.07), indicating that difference between mothers’ and fathers’ patterns of the scores across the involvement scales is approaching significance (p = 0.086). At the same time, the level test showed that overall, mothers were significantly more involved than fathers beyond the subscales (F(1,29) = 12.89, p < 0.001, η² = 0.31). Bonferroni corrected pair-wise comparisons between fathers and mothers for each subscale separately revealed significant differences on 4 of the 5 subscales (p < 0.001), including interest and attendance, communication style between parents and professionals, initiation and responsibility, and active collaboration (see Figure 1). Only social involvement scale was not significantly different between fathers and mothers. Finally, the flatness hypothesis tested whether the dependent variables (i.e., the different subscales) beyond parents’ gender elicited similar average responses. Using Hotelling’s criterion, the profile deviated
significantly from flatness \( F(4,116) = 35.79, p < 0.001, \eta^2 = 0.55 \), indicating that the subscales’ mean scores differed from one another. Bonferroni corrected post-hoc comparisons revealed that the parents showed a similar levels of involvement in the interest and attendance and communication sub-scales, but at a significantly higher level than the other three scales (all \( p's < 0.001 \)). In addition, parents showed similar involvement in the responsibility and active collaboration sub-scales (i.e., these two sub-scales did not differ) but were found to be significantly different and higher than the social involvement scale (both \( p's < 0.001 \)).

To further unravel the relationships between parent characteristics and involvement, Pearson’s correlations were calculated separately for fathers and mothers. Table 3 summarizes the correlations. As can be seen, formal support was highly correlated with all five scales for both fathers and mothers, with the exception of the Interest & attendance scale for mothers. Informal support was significantly correlated with four of the sub-scales for fathers, but only with one for mothers. The only significant difference between the correlations for fathers and mothers was between active collaboration and formal support: whereas active collaboration was significantly correlated with informal support for fathers, it was not for mothers (difference between correlations, \( p = 0.03 \)). Self-efficacy was found to be significantly correlated to fathers’ communication and active collaboration involvement. However, no correlations were found between mothers’ self-efficacy and their involvement. Parenting stress was not found to be significantly correlated to either fathers’ or to mothers’ involvement. In order to compare the magnitude of the significant correlations found between mothers and fathers, we have used alternative approach for the Fisher’s \( z \) analyzes known as the ZPF index [56]. The ZPF test is appropriate for analyzing the difference in nonindependent variables. Due to the relative small sample size in our study together with the intrinsic low power of tests assessing differences between correlations [57], significant differences were not obtained (\( p's \) values range 0.21–0.70).

**Discussion**

This study sought to address gaps in the literature on differences in mothers’ and fathers’ multiple dimensions of involvement behaviors in their D/HH child’s intervention program, and the personal and social factors associated with their involvement. The comparison of parental involvement between mothers and fathers indicated that mothers reported significantly higher levels of parental involvement than fathers. With regard to differences across the specific dimensions of parental involvement, mothers reported higher involvement than fathers for interest and attendance, communication and interactions with the professionals, taking responsibilities and initiations, and actively collaborating with professionals in the child’s intervention. However, there were no significant differences between mothers and fathers in terms of their social involvement with other families. These findings are consistent with previous studies reflecting the fact that mothers act as the main caregivers to young children with various disabilities [17,58]. The higher level of maternal involvement might indicate that the majority of households today are organized in a manager–helper dynamic where mothers largely orchestrate family life and fathers provide assistance through task completion [59]. In addition, considering the high rate of mothers who were unemployed (73%), children’s intervention was the main role and responsibility of the mothers.
With respect to comparisons across the five different dimensions of parental involvement, both mothers and fathers reported higher scores on the interest and attendance and communication subscales than on the initiative and responsibility, active collaboration, and social involvement subscales. This indicates that both mothers and fathers had a rather passive style of involvement in their child’s intervention program. Specifically, parents reported that they maintained stable relationships with professionals, attended meetings with professionals, and received information, but gave themselves significant lower scores for taking initiative, actively participating in activities, as well as expressing their opinions and criticizing the professionals working with their children or components of the intervention program. Parents did not see themselves as very involved in decision-making processes or assessment processes for their child or in providing ideas to improve their child’s or family’s services. In addition, they reported that they were not socially involved with other parents of D/HH children. Interestingly, a very similar passive style was reported by Jewish Israeli mothers of D/HH children regarding their initiatives, decision-making, assessments, provision of ideas to improve services, and social involvement [60]. The vision of family-centered programs is that family members should work collaboratively and share responsibilities with professionals, join professionals in developing appropriate outcomes, and be engaged in making informed choices and decisions [61]. However, it seems that there are gaps between the goals and principles of family centered care and their implementation in the realities of everyday practice [62,63]. A study that examined the conceptualization of family-centered care grounded in the experiences of families and health-care providers suggested that the role that parents and professionals play and the resulting outcomes of this partnership are not determined jointly, which may impede more active collaboration and partnership between the partners and lead to passive style of involvement [64].

An important finding emerging from the current study has to do with the commonalities and differences in the patterns of associations between the parents’ formal and informal social support and the multiple dimensions of parental involvement. For both mothers and fathers, higher levels of support from professionals were associated with increased levels of involvement across all dimensions, except for the interest and attendance subscale that was only correlated for fathers. Hence, supportive relationships with professionals appear to facilitate increased collaboration, encourage parents to take on more responsibilities as regards their child’s intervention, and enable frequent and open communication between parents and professionals. The beneficial effects of social support on parent involvement have been reported in previous studies [10,65,66]. Parental assistance from different professionals in the form of informational, tangible, and emotional support has been shown to help parents acquire knowledge, experience a sense of control and competence, and in general cope better with parenting their child who is D/HH [35]. Social support may also serve to promote parents’ involvement by providing them with the psychosocial resources needed to undertake involvement in the face of countervailing stressors and demands [39]. However, the findings regarding informal support indicate that higher levels of perceived support from family and friends were associated with increased involvement across all dimensions only for fathers, whereas for mothers, the amount of perceived informal social support was not different as regards their involvement, with the exception of involvement with other families. Thus support from family members and friends may have made it possible for fathers to make significant adjustments in their daily routine to participate in their child’s intervention program, attend meetings, or spend time during the day at their child’s intervention program. This type of support also made it possible for mothers to be more socially involved with other parents. At the same time, informal support was not different in mothers as compared with fathers for the other dimensions of involvement, as the majority of mothers in our sample did not work (73%), and taking care of their child was perceived as their main role responsibility. The current findings highlight the need to differentiate between formal and informal sources of support to have a better understanding of their impact on parental involvement [41]. Moreover, it is also important to examine the impact of various functions of social support (e.g., financial, tangible, emotional) on parental involvement.

The results also showed that for fathers alone, parental self-efficacy was positively associated with fathers’ involvement across multiple dimensions. Fathers who positively appraised or rated their parental ability may feel encouraged to engage in their children’s intervention. This is consistent with parental self-efficacy theory and previous findings indicating that parental self-efficacy is an important determinant of parental behavior [25,28]. Over time, through their collaboration with professionals and participation in their child intervention program, fathers’ sense of self-efficacy may be strengthened. However, no causal relationships or processes over time can be inferred from the current study. Future longitudinal studies should explore this topic.

The lack of association between mothers’ self-efficacy and their involvement might be explained by mothers’ parental identity in terms of their perception of their care giving role and responsibility [67]. As part of their role identity, regardless of their self-efficacy levels, mothers might feel obligated to attend and

<table>
<thead>
<tr>
<th>Table 3. Correlations between personal and social variables and involvement, for fathers and mothers separately.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest &amp; attendance</td>
</tr>
<tr>
<td>-----------------------</td>
</tr>
<tr>
<td>Parenting stress</td>
</tr>
<tr>
<td>Mother</td>
</tr>
<tr>
<td>Father</td>
</tr>
<tr>
<td>Formal support</td>
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<tr>
<td>Mother</td>
</tr>
<tr>
<td>Father</td>
</tr>
<tr>
<td>Informal support</td>
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<tr>
<td>Mother</td>
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<td>Father</td>
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<tr>
<td>Self-efficacy</td>
</tr>
<tr>
<td>Mother</td>
</tr>
<tr>
<td>Father</td>
</tr>
</tbody>
</table>

*p < 0.05.

*p < 0.01.
participate in their child’s intervention program and to maintain relationships with professionals. Alternatively, mothers’ self-efficacy may be associated with the quality of their involvement activities rather than their actual involvement. The relationship between mothers’ self-efficacy and their involvement warrants further investigation.

In contradiction to our hypothesis, no associations were found between parenting stress and both mothers’ and fathers’ involvement. A possible explanation might be that parental involvement includes behaviors that are incorporated as part of parents’ management of their child condition as part of their daily life, even when experiencing stress related to their parenting a child who is D/HH. At the same time, extrinsic factors such as social support and internal personal resource such as sense of competence linked to parents’ management of their child’s condition [68]. In addition, it might be that parenting stress is related to more subtle supportive or unsupportive qualities of parental involvement characterized parent-child interactions or parent-professional interactions within involvement activities [69]. Therefore, it has not been captured in the current study. Another possible reason of the lack of relationship between stress and parental involvement may be related to the fact that the stress inventory used in the current study is not a diagnostic tool that identifies clinical dysfunction. Future study should include additional tool to further examine this relationship.

This study has a number of practical implications. The findings should encourage the development of guidelines and practices to help both professionals and parents to promote parents’ active involvement in their children’s intervention. The results suggest that the experiences and behaviors of mothers and fathers should not be seen as interchangeable. Rather, the gender differences in parental involvement and their correlates should be taken into consideration when working with families of D/HH children. By better understanding the factors that facilitate or hinder mothers’ and fathers’ parental involvement in their children’s intervention, professionals will be better equipped to support parental involvement in both mothers and fathers of D/HH children aligned with the principles of family centered care service delivery.

In summary, this study contributes to the literature on mothers’ and fathers’ multiple dimensions of involvement in the intervention program of D/HH children. Because most involvement research has focused exclusively on mothers, the inclusion of fathers is one of the strengths of this study. The present study was conducted with Israeli Arabs who might have different characteristics as a cultural group than Arabs in other countries, or other cultural groups in general. Hence, the generalizability of the findings to other cultural groups should be examined in future studies. In addition, the current study suggests a model along with questionnaires for investigating parental characteristics linked to parents’ management of their child’s condition [68]. In future studies, utilizing Belsky’s [18] framework, could continue to explore the influence of other personal and social variables on mothers’ and fathers’ involvement such as parents’ mental health and coping style as well as the influence of their children’s characteristics. In addition, future studies should continue to explore the effects of mothers’ and fathers’ involvement on D/HH children’s intervention outcomes and on the family as a whole.

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Disclosure statement

The authors report no declarations of interest.

References


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