Like Grandmother, Like Mother? Multigenerational Mediation of Young Children's Media Use

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Research on the mediation of children's media use tends to overlook the existence of several significant caregivers, who may apply different mediation practices. Based on a survey of 267 dyads of grandmothers and mothers of young children (aged 4–8 years old), the present study explored similarities and differences in grandparental and parental mediation. The findings indicated that grandmothers are generally less active mediators than mothers, especially when interactive media are used. Yet they pointed at significant variations among the dyads, because three clusters were identified: *intensely mediating*, *slightly mediating*, and *generation gap* dyads. These groups differed in education level, mastery of digital media, and family structure. The study adds to the mediation literature by proposing an intergenerational transmission of mediation attitudes and practices across the decades, independent of technological advances. It also points at possible obstacles to effective mediation, which may negatively affect the children's development.

Keywords: children, grandparents, mediation, parents, media use, technology

The role caregivers might play in mediating young children's media uses has been a topic of intensive academic inquiry for almost three decades. Given the ongoing public and scholarly concerns about the harmful effects of media on children's development and well-being, mediation strategies are supposed to minimize the negative impacts and maximize positive ones (Lemish, 2015). Indeed, mediation of children's media use was found to contribute to children's learning from screen content, managing affect arousal, strengthening family integration, and children's overall healthy cognitive, social, and emotional

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development (Austsin, Bolls, Fujioka, & Engelbertson, 1999; Clark, 2011; Nathanson, 1999; Pempek & Lauricella, 2017; Rasmussen, Keene, Berke, Densley, & Loof, 2017; Warren, 2003).

What is most surprising, however, is that the caregivers' mediation was studied solely in the context of one particular mediator (mostly a mother). Previous studies overlooked the fact that children are usually taken care of by several significant caregivers (e.g., both parents, grandparents, older siblings, nannies) who might apply different mediation strategies and play a differential role in the overall mediation process. Although grandparental mediation has recently begun to attract research attention, nothing is known about the possible similarities and differences between parental and grandparental mediation within a single familial context. The present study aims to fill this gap by focusing, for the first time, on the two-generation *mediating dyad* consisting of a mother and a grandmother, who may complete each other's mediation efforts or take a different stand on the various issues concerning the children's media uses. This new perspective is expected to deepen understanding of different mediating agents who shape young children's media habits and experiences.

Literature Review

Parental Mediation of Children's Media Uses

Since the 1990s, the parents' role as mediators of their children's media use has attracted significant research attention. Valkenburg, Krcmar, Peeters, and Marseille (1999) identified three strategies of television viewing mediation that served as the basis for many studies that followed: restrictive mediation, instructive mediation, and coviewing. Restrictive mediation assumes setting limits for the amount of viewing or prohibiting the viewing of certain content, instructive mediation refers to having a discussion with children during or following the viewing, and coviewing occurs in situations of shared viewing experience without necessarily discussing the content.

With the growing presence of the Internet and digital technologies in children's lives, researchers began to suggest new mediation practices. Although restrictive and instructive mediation strategies could be applied to all media uses, coviewing was expanded to co-use that includes uses of digital media. Furthermore, the recent studies revealed two additional mediation strategies: supervision (i.e., parents' attempts to remain in the children's proximity when they engage in media use) and technological mediation (i.e., parents' attempts to improve children's technical skills; Elias, Lemish, & Rovner-Lev, 2021; Li & Shin, 2017; Nikken & Jansz, 2014; Nikken & Schols, 2015; Smahelova, Juhová, Cermak, & Smahel, 2017).

Each mediation strategy has a unique contribution to children's healthier media uses. Instructive mediation and co-use were found to reduce media-related risks and strengthen family togetherness, whereas restrictive mediation was found to have a greater impact on decreasing the amount of children's screen time (Chen & Shi, 2019). Many studies have been inconclusive about whether one parental mediation strategy is the most beneficial, but recent research suggests that employing a balance of instructive and restrictive mediation can best support children in developing self-regulation media habits and their norms and boundaries for media use (Steinfeld, 2021).

Many mediation studies compared categories of parents according to gender, education, number of children, media-related attitudes, media literacy, and the like. Yet all of them examined mediation practices based on data related to individual parents. Most studies ignored the fact that in nearly all families, there is more than one meaningful mediator (e.g., mothers and fathers, grandparents, older siblings, babysitter/caregiver) who may complete or counterbalance each other. A rare exception is a qualitative study by Gabai (2021), who examined mediation within a parental dyad. Based on in-depth interviews with heterosexual couples, Gabai (2021) found two principal differences between mothers' and fathers' mediation practices. First, whereas mothers were more involved in instructive mediation (mostly for educational purposes), fathers were more engaged in co-use and coviewing to fulfill their own escapist needs. Second, mothers were more dominant in shaping the family's mediation rules, whereas fathers declared they followed their wives' instructions.

No less important is shedding light on mediation practices within the two-generational context— that is, parents and grandparents. It could be assumed that both generations could affect each other's mediation practices given the fact that grandparents were the ones who served as mediators of parents when they were children, and parents may demand that grandparents follow their own mediation rules when they take care of the grandchildren. Still, parents and grandparents may apply different mediation strategies and have different (and even conflicting) worldviews about the desirable media use of the children. This oversight is especially surprising given that many grandparents are involved in caring for their grandchildren (Di Gessa, Glaser, & Tinker, 2015; Horsfall & Dempsey, 2015) and that grandchildren spend a lot of the time under the grandparents' watch on media use (Dunifon, Near, & Ziol-Guest, 2018; Elias, Nimrod, & Lemish, 2019).

Grandparental Mediation of Children's Media Uses

Grandparents play various roles in their grandchildren's lives and engage in multiple childcare and leisure activities, including media uses (Bernal & Anuncibay, 2008; Hank, Cavrini, Di Gessa, & Tomassini, 2018). Yet most studies conducted so far mainly examined the role of media technologies in connecting grandparents with their grandchildren when a geographical distance separates them. These studies have found that media technologies created an opportunity for grandparents to spend time with grandchildren and keep up with their lives by adopting new forms of communication such as e-mail, text messaging, video conferencing, and social media (Bangerter & Waldron, 2014; Busch, 2018; Holladay & Seipke, 2007; Sawchuk & Crow, 2012). Such media uses strengthen a sense of togetherness and closeness (Raffle et al., 2011).

Ivan and Hebblethwaite (2016) revealed that the primary motivation of grandmothers to use Facebook was to stay involved in their grandchildren's lives. They also found that grandmothers maneuver between various media technologies to communicate with their loved ones: Video chats and phone calls were used for direct conversations with the grandchildren, whereas Facebook was used for viewing photos and reading their grandchildren's posts. These practices intensified during the COVID-19 pandemic when even grandparents living near their grandchildren were prevented from face-to-face visits and used Zoom instead.

Another group of studies that dealt with the place of media in grandparent-grandchild relations focuses on teenage grandchildren's attempts to guide their grandparents on how to use media devices and platforms (Gamliel & Gabay, 2014; Hunt, 2012). The ability of grandparents to improve their grandchildren's technological skills was utterly overlooked, although younger children require adult assistance to operate various media devices. Likewise, only a few studies have partially examined how grandparents and grandchildren use media together. As grandchildren get older, grandparents shift their childrearing efforts from outdoor activities to indoor pursuits, such as media use (Smith, 2005). In this regard, television viewing was found to be the most common joint activity, which was even described as a key factor for a strong grandparent-grandchild relationship (Öztürk & Hazer, 2017).

Our study conducted in 2018 was the first to explore grandparental mediation of young children's media use, including *noninteractive* uses (i.e., watching films, YouTube videos, and TV programs on any screen) and *interactive* ones (i.e., playing digital games and online activities other than watching; Nimrod, Elias, & Lemish, 2019). The study demonstrated that grandparents were engaged in various mediation practices but were more likely to apply them to noninteractive media use (Nimrod, Lemish, & Elias, 2022). Furthermore, we identified four factors positively associated with grandparental mediation: past mediation, familiarity with children's media, parents' instructions on how to use the media with the grandchild, and involvement in joint leisure activities other than media use. It appeared that grandparents who were more involved in the mediation of their children's media use in the past became more engaged mediators as grandparents. Hence, mediation experiences, expectations, and attitudes may be transmitted from generation to generation, even if the media environment has significantly changed. Moreover, our findings emphasized the significance of parental instructions that were associated with grandparents' higher involvement in all mediation practices, especially in restrictive mediation (Elias, Lemish, & Nimrod, 2021).

The survey findings were confirmed by in-depth interviews with grandmothers who elaborated on various media-related instructions that the grandchild's parents expected them to follow (Elias, Lemish, & Nimrod, 2020). However, some interviewees were reluctant to follow these instructions to maintain peaceful relationships with their grandchildren. These findings highlight the importance of the intergenerational dynamics involved in mediating children's media uses and call for a comparative investigation of grandmothers' and mothers' mediation practices.

Accordingly, the present study was designed to answer the following research questions:

RQ1:   *What are the similarities and differences in mediation practices between grandmothers and mothers of the same children?*

RQ2:   *Can dyads of grandmothers and mothers be differentiated according to their mediation patterns?*

RQ3:   *If so, what factors may explain the differences in mediation practices among clusters of dyads?*

Methods

The study was based on a survey of 267 dyads of Israeli grandmothers and mothers of young children (aged 4–8 years old). The children's age range was selected because adults' mediation is especially crucial in early childhood (Beyens, Valkenburg, & Piotrowski, 2018; Lemish, 2015; Livingstone, Haddon, Görzig, & Ólafsson, 2011). The focus on women resulted from previous research, indicating that mothers and grandmothers are more involved in caring for young children than their fathers and grandfathers (Cohen, 2021; Gabai, 2021; Nimrod et al., 2022). The study was examined and approved by the institutional review board at the first two authors' university (approval number: 1785).

A commercial firm that operates an online panel of Internet users collected the data between November 2021 and January 2022. First, an e-mail with a link to a screening questionnaire was sent to all women aged 25–50 in the panel ($N = 69,021$), of whom 9,757 entered the link, and 557 met the screening criteria (having a child aged 4–8 who is being watched by their mother at least once a week and accepting their mother's permission to give us her phone number). Quotas were instituted to ensure that the sample included grandmothers and mothers of children of different ages. Then, a telephone survey with the grandmothers was carried out. This method was applied to ensure that the study also included grandmothers who do not use the Internet and Internet users who are uncomfortable or unwilling to answer online surveys. Of the 557 grandmothers contacted, 277 took the survey. Lastly, a link to an almost identical online survey was sent to their daughters, and 267 of them completed it, leading to a total sample of 267 dyads.

Study participants were presented with a description of the research aims, detailed instructions, and the researchers' contact information. Informed consent was expressed vocally on the telephone survey and by pressing "I agree" on the online survey. Mothers with several children in the relevant age range were asked to choose one and detail their names. When the grandmothers were interviewed, they were asked to refer to that child only, and the same procedure was repeated in the following mothers' survey. Although they were free to withdraw from the study at any time and for any reason, all participants completed the survey, and most answered the entire questionnaire. Participants were also invited to contact the researchers concerning any question, but none did so.

Measurement

The mothers' and grandmothers' questionnaires were almost identical. They differed only in referencing the child in question (i.e., your "grandchild" vs. "child") and mainly included closed-ended questions about the following topics:

1. Children's media use—The time children spend using various media under their mothers and grandmothers' supervision was estimated by asking participants to report the typical duration of noninteractive media (films, videos, or TV programs played on a TV set or a digital device) and interactive media (games, software or applications, websites) use.

2. Mediation—The 16-item mediation scale developed by Nimrod et al. (2019) was used to measure study participants' involvement in mediating the child's noninteractive and interactive media use. Each subscale refers to the four mediation practices (restrictive, instructive, supervision, and co-use), with two items per construct. The study participants were asked to rate the frequency in which they applied the mediating actions using a 5-point Likert scale ranging from 1 ("never") to 5 ("always"). In this study, we added two items about interactive media use to measure technological mediation: "Showing/explaining your (grand)child how to operate a device (e.g., downloading an app, changing volume)" and "Showing/explaining your (grand)child how to use an app or website, play a game, etc." Cronbach's alpha for the entire scale was .843 among the grandmothers and .891 among the mothers. Removal of the technological mediation items resulted in a slightly lower alpha. Accordingly, these items were included in all analyses.

3. The context of grandparental caregiving—A series of questions explored the context of caregiving for the grandchild, including the number of caregiving events per week, typical duration, place (at grandmother's or mother's home), presence of additional grandchildren and their number, and whether the mother asked the grandmother to follow specific instructions about media use. These questions were presented to the mothers and the grandmothers alike and yielded similar answers. We therefore randomly chose to use the mothers' responses in the analyses.

4. Self-rated digital media mastery—Two items were used to assess the study participants' mastery of digital media—one related to smartphones and one to the Internet in general. Participants were asked to rank how well they operate these media on a scale ranging from 1 ("poorly") to 4 ("very good").

5. Attitudes toward children's media—Participants were presented with four media uses common among children and asked to report their opinion about the impact each use has on child development on a 5-point Likert scale ranging from 1 ("very harmful") to 5 ("very beneficial"). Two uses were noninteractive (watching TV and YouTube), and two were interactive (playing games/apps and using educational software).

6. Background characteristics—The mothers were asked to report the selected child's sex and age. Both they and the grandmothers were asked about their sex, age, marital status, number of children, education, income, work status, religiosity, and perceived health (on a 5-point Likert scale ranging from 1 ["very bad"] to 5 ["very good"]).

Data Analysis

Data were analyzed using SPSS v.26 software. Bonferroni corrections were applied to control for type 1 errors and alpha inflation, outliers were handled according to Tabachnick and Fidell's (2007) approach, and all reported findings were significant at or above the .05 level. First, descriptive statistics were used to explore the grandmothers' and mothers' characteristics, the children's media use, and the

context of grandparental caregiving. Then the mean scores for each mediation construct (pair of items) were calculated, and paired-sample *t*-tests were used to examine differences between the grandmothers and the mothers in their involvement in mediation. Additional such tests examined differences in self-rated media mastery and attitudes toward children's media.

In the next step of the analysis, the mean scores for each mediation construct applied to noninteractive media were subjected to *k*-means cluster analysis, enabling the classification of dyads with similar patterns. One-way analysis of variance (ANOVA) with Bonferroni post hoc tests was used to explore differences among groups in each mediation practice. Lastly, the same procedure was applied to examine differences among the groups in the children's characteristics and media use, the context of grandparental caregiving, and the grandmothers and mothers' self-rated digital media mastery, attitudes toward children's media, and background characteristics.

Findings

Sample Characteristics

The grandmothers' age ranged between 45 and 84 (Mean = 63.40, *SD* = 7.093), most of them (73.4%) were married, and the number of children they had run between one and eight (Mean = 3.25, *SD* = 7.093). Only 33.7% of the grandmothers had an academic education, 31.8% reported monthly income higher than the average, and 30% worked full time. Seventy-six percent rated their health as good or very good, and 52.8% reported some level of religiosity.

As could be expected according to their life stage, the mothers were younger and healthier than the grandmothers. Their ages ranged between 25 and 50 (Mean = 35.91, *SD* = 5.182), and 91.8% reported good or very good health. Similarly, a higher percentage of them were married (86.1%) and worked full time (70.8%). However, their characteristics also reflected noteworthy generational changes: They were significantly more educated (69.7% had academic education), did better financially (48.7% had income higher than the average), had fewer children (Mean = 2.60, *SD* = 0.989), and were less religious (38.6%) than the grandmothers.

Almost all study participants—grandmothers and mothers alike—used smartphones and the Internet (see Table 1). Still, the grandmothers' self-rated digital media mastery was significantly lower (*p* < .001) than that of the mothers: The mean for the smartphone was 3.36 (*SD* = 0.77) versus 3.90 (*SD* = 0.35), and the mean for the Internet was 3.35 (*SD* = 0.82) versus 3.92 (*SD* = 0.33), respectively. In addition, although both grandmothers and mothers valued children's interactive media more than noninteractive media, the grandmothers regarded both types of media more positively than the mothers. Their mean attitudes score for noninteractive media was 6.36 (*SD* = 2.41) versus 5.56 (*SD* = 1.79) among the mothers (*p* < .001), and their mean attitudes score for interactive media was 7.70 (*SD* = 2.48) versus 7.08 (*SD* = 1.84) among the mothers (*p* < .01).

Table 1. Grandmothers and Mothers Characteristics.

	Grandmothers	Mothers
Age	*Range:* 45–84	*Range:* 25–50
	Mean: 63.40 (*SD* = 7.093)	Mean: 35.91 (*SD* = 5.182)
No. of children	*Range:* 1–8	*Range:* 1–6
	Mean: 3.25 (*SD* = 1.248)	Mean: 2.60 (*SD* = 0.989)
Married	73.4%	86.1%
Education (academic)	33.7%	69.7%
Income (> average)	31.8%	48.7%
Employment (full time)	30.0%	70.8%
Self-rated health (good)	76.0%	91.8%
Religiosity (yes)	52.8%	38.6%
Media use		
Smartphone	97.8%	99.3%
Internet	96.3%	100%
Self-rated media mastery		
Smartphone***	3.36 (*SD* = 0.77)	3.90 (*SD* = 0.35)
Internet***	3.35 (*SD* = 0.82)	3.92 (*SD* = 0.33)
Attitudes toward children's media		
Noninteractive***	6.36 (*SD* = 2.41)	5.56 (*SD* = 1.79)
Interactive**	7.70 (*SD* = 2.48)	7.08 (*SD* = 1.84)

Note. The scale for mastery ranged from 1 ("poorly") to 4 ("very well"). The attitudes were calculated by summing up the scores for each media use. Differences in self-rated mastery and attitudes were explored by applying paired-sample *t*-tests.
*$p < .05$, **$p < .01$, ***$p < .001$.

Differences in Mediation Between Grandmothers and Mothers

According to the mothers' reports, the grandmothers watched over their grandchildren about 2.69 times a week for 4.17 hours every time (i.e., approximately 11.22 hours a week). The grandmothers watched over their grandchild at their home (74.5%) more than they did at their daughters' home (41.2%), and 70.4% of them watched over additional grandchildren while doing so (Mean = 1.97, *SD* = 1.057). Most mothers (61.0%) reported giving instructions to the grandmothers about the children's media use while under their watch.

The reported children's media use time on a typical day under their mothers' watch was 168.95 minutes on average (*SD* = 107.01). Because 23.34% of the mothers indicated that their child does not use any interactive media, the mean reported use time was unevenly split between noninteractive media (Mean = 108.68 minutes, *SD* = 60.15) and interactive media (Mean = 60.27, *SD* = 61.46). Because the time spent under the grandmothers' watch was only 4.17 hours on average, the grandmothers reported less media use time than the mothers. Still, it was unevenly split between noninteractive media (Mean = 67.32, *SD* = 60.15) and interactive media (Mean = 28.76, *SD* = 42.97). Overall, they reported 96.08 minutes on average (*SD* = 80.86), making 41.53% of a typical grandparental caregiving event.

The mothers' and grandmothers' reported application of various mediation practices is presented in Table 2. Regarding mediation of noninteractive media use, the findings indicate that the grandmothers reported applying restrictive and instructive mediation significantly less than the mothers ($p < .001$). No significant differences were found in supervision and co-use. The most applied practice among grandmothers was supervision (Mean = 3.79, SD = 0.826). They reported using all three other practices to a lesser (and similar) degree. Among the mothers, the most applied reported practices were restrictive mediation (Mean = 3.84, SD = 0.990) and supervision (Mean = 3.78, SD = 0.821), and the least reported practice was co-use (Mean = 2.86, SD = 0.739).

Table 2. Differences Between Grandmothers and Mothers in Mediation Practices: Results of Paired-Samples t-Tests.

Mediation Practice	Grandmothers	Mothers
Mediation of noninteractive media use—means (*SD*)		
Restrictive***	2.71 (1.287)	3.84 (0.990)
Instructive***	2.60 (0.947)	3.34 (0.944)
Supervision	3.79 (0.826)	3.78 (0.821)
Co-use	2.79 (0.874)	2.86 (0.739)
Total subscale ***	3.06 (0.657)	3.45 (0.642)
Mediation of interactive media use—means (*SD*)		
Restrictive***	2.61 (1.334)	4.01 (1.065)
Instructive***	2.81 (0.955)	3.51 (0.966)
Supervision	3.48 (1.050)	3.57 (0.938)
Co-use***	2.24 (0.972)	2.85 (0.869)
Technological ***	1.33 (1.774)	2.86 (1.080)
*Total subscale***	2.52 (0.681)	3.40 (0.704)

Note. The scale ranged from 1 ("never") to 5 ("always"). The total subscale was calculated by averaging the scores of the various constructs. Mothers: n = 257 for noninteractive and 197 for interactive media. Grandmothers: n = 221 for noninteractive and 105 for interactive media.
*$p < .05$, **$p < .01$, ***$p < .001$.

Regarding mediation of interactive media use, the grandmothers reported applying restrictive, instructive, co-use, and technological mediation significantly less than the mothers ($p < .001$). Again, no significant difference was found in supervision, and this was also the most applied practice among grandmothers (Mean = 3.48, SD = 1.050). The least applied among them was technological mediation (Mean = 1.33, SD = 1.774). Among mothers, the most applied practice was restrictive mediation (Mean = 4.01, SD = 1.065), and the least used were co-use (Mean = 2.85, SD = 0.869) and technological mediation (Mean = 2.86, SD = 1.080).

Overall, the grandmothers in this sample were significantly less active mediators than the mothers. However, it should be noted that the differences were smaller for noninteractive media (mean for the total scale was 3.06 vs. 3.45, respectively) as compared with interactive media use (2.52 vs. 3.40, respectively). Whereas the mothers' involvement in mediation was similar for the two types of

media, the grandmothers' mediation of noninteractive media was greater than their engagement in mediating interactive media.

Variations Among the Dyads

The mean scores for each mediation construct (pair of items) applied to noninteractive media were subjected to *k*-means cluster analysis to identify possible variations among the dyads. The analysis produced an optimal three-cluster solution according to the distribution of data points across groups and the observed differences between the clusters. In two of the identified clusters, which made up 60.4% of the sample, the mediating practices of the grandmothers and the mothers were similar: Among the *intensely mediating dyads*, both the grandmothers and the mothers were highly involved in mediation, and among the *slightly mediating dyads*, both the grandmothers and the mothers were hardly engaged in mediation. The third cluster—*generation gap dyad*—demonstrated significant differences between the mothers and the grandmothers: Whereas the grandmothers' engagement in mediation was similar to that of the grandmothers in the *slightly mediating dyads*, the mothers' involvement in mediation was comparable to that of the mothers in the *intensely mediating dyads*. These patterns were reflected in the noninteractive and interactive media uses alike (see Table 3) and suggested that the above differences in mediation between grandmothers and mothers stemmed mainly from the *generation gap dyads*.

Table 3. The Three Clusters of Dyads.

	Intensely Mediating Dyads	Generation Gap Dyads	Slightly Mediating Dyads
N	75	84	53
Percentage of sample	35.4	39.6	25.0
Mediation of noninteractive use			
Grandmothers—Restrictive***	3.91[a]	1.71[c]	2.47[b]
Instructive***	3.53[a]	2.73[b]	2.67[b]
Supervision***	4.18[a]	3.55[b]	3.59[b]
Co-use**	3.03[a]	2.61[b]	2.58[b]
Mothers—Restrictive***	4.11[a]	4.12[a]	2.87[b]
Instructive***	3.58[a]	3.64[a]	2.42[b]
Supervision***	3.94[a]	4.16[a]	2.92[b]
Co-use***	2.89[b]	3.18[a]	2.31[c]
Mediation of interactive use			
Grandmothers—Restrictive***	3.60[a]	1.94[b]	2.07[b]
Instructive**	3.28[a]	2.71[b]	2.40[b]
Supervision**	4.02[a]	3.29[b]	3.38
Co-use	2.58	2.14	2.05
Technological*	1.49[a]	1.19[b]	1.36
Mothers—Restrictive***	4.21[a]	4.23[a]	3.18[b]

Instructive***	3.65[a]	3.78[a]	2.76[b]
Supervision***	3.64[a]	3.90[a]	2.82[b]
Co-use***	2.94[a]	3.00[a]	2.38[b]
Technological	2.76	2.89	2.77

Notes. Significance was tested using one-way ANOVA with Bonferroni post hoc tests. Significant group differences are marked with [a], [b], and [c].
p < .05, **p* < .01, ***p* < .001.

In the search for possible explanations for the differences in mediation practices among the dyads, we compared the children's characteristics and media use, the context of grandparental caregiving, and the grandmothers and mothers' self-rated digital media mastery, attitudes toward children's media, and background characteristics. The analysis demonstrated several significant differences among the clusters (Table 4). The *intensely mediating dyads* were characterized by the highest rates of grandmothers and mothers with academic education. Similarly, both the grandmothers and the mothers in this group reported the highest self-rated mastery of smartphone use, and the grandmothers also indicated the highest mastery of Internet use. Significantly more grandmothers in the *slightly mediating dyads* reported watching over more than one grandchild, and the number of additional grandchildren under their watch was the highest of all groups. These differences were probably because the mothers in this cluster had more children than the mothers in the other groups. These mothers also reported the most extended child's noninteractive media use in a typical day under their watch.

Like the grandmothers in the *intensely mediating dyads*, the grandmothers in the *generation gap dyads* watched over more than one grandchild less than the grandmothers in the *slightly mediating dyads*. When the grandmothers in the *generation gap dyads* did so, they also watched over fewer grandchildren than the grandmothers in the *slightly mediating dyads*. However, the grandmothers in the *generation gap dyads* were pretty similar to the grandmothers in *slightly mediating dyads* in their education and technological mastery.

The mothers in the *generation gap dyads* were less educated than the mothers in the *intensely mediating dyads* and had fewer children than the mothers in the *slightly mediating dyads*. The reported time their children used noninteractive media under their watch was higher than that of the *intensely mediating dyads* and lower than that of the *slightly mediating dyads*. There were no significant differences among the groups in attitudes toward children's media use and the children's characteristics.

Table 4. Differences Among the Dyads.

	Intensely Mediating Dyads	Generation Gap Dyads	Slightly Mediating Dyads
n	75	84	53
Percentage of sample	35.4	39.6	25.0
Differences among the grandmothers in the dyads			
Academic education (1 = yes, 0 = no)*	0.44[a]	0.24[b]	0.28[b]
Watching over more grandchildren (1 = yes, 0 = no)*	0.65[b]	0.67[b]	0.85[a]

Number of additional grandchildren being watched**	1.65[b]	1.88[b]	2.40[a]
Smartphone self-rated mastery**	3.58[a]	3.15[b]	3.28
Internet self-rated mastery***	3.65[a]	3.07[b]	3.29[b]
Differences among the mothers in the dyads			
Academic education (1 = yes, 0 = no)**	0.84[a]	0.58[b]	0.58[b]
Number of children**	2.47[b]	2.49[b]	3.04[a]
Child's noninteractive media use in a typical day under the mother's watch (in minutes)***	96.57[c]	107.06[b]	134.43[a]
Smartphone self-rated mastery*	3.99[a]	3.89	3.83[b]

Notes. Significance was tested using one-way ANOVA with Bonferroni post hoc tests. Significant group differences are marked with [a], [b], and [c].
*p < .05, **p < .01, ***p < .001.

Discussion and Conclusions

This multigenerational study of mediation provides additional support for our earlier research reported above (Elias et al., 2019, 2020, 2021; Nimrod et al., 2019, 2022) but also expands it in significant ways, as it examines dyads of mothers and grandmothers of the same children. Like our previous research, it suggests that grandmothers are less comfortable with interactive media and thus tend to intervene less in their grandchildren's use of digital devices. This interpretation is reinforced by the fact that mothers, who have already been socialized in the digital era and report greater digital media mastery, mediate noninteractive and interactive media to the same degree. Clearly, more limited digital literacy skills impact grandmothers' willingness and ability to mediate their grandchildren's interactive media activities. This may explain their lack of engagement in technological mediation and their lower involvement in the co-use of digital media.

Our findings also suggest that grandmothers tend to be less involved in mediating their grandchildren's media use than their daughters (the children's mothers). This tendency may be explained by the grandparents' perception of their roles as loving-spoiling figures in their grandchildren's lives rather than disciplinaries or educators (Cohen, 2021; Elias et al., 2020). As a result, they may adopt more passive or supportive mediation practices rather than restrictive ones. As in our previous research, supervision—the least demanding and interventionist mediation practice—was the most common one among them. We can assume that this is the strategy least noticed by the children and thus least controversial or conflictal. It also allows caregivers to feel responsible while letting children feel independent. However, this finding raises concerns about the efficacy of grandmothers' mediation of their young grandchildren's media uses. A meta-analysis of multiple mediation studies (Steinfeld, 2021) showed that a combination of instructive and restrictive mediation strategies better contributes to developing children's healthier media habits—both practices that grandmothers seem to avoid.

Most importantly, the present study adds to the mediation literature by proposing an intergenerational transmission of mediation attitudes and practices across the decades, independent of technological advances and the availability of specific media in children's lives. Two of the three clusters of mediation types distinguished in our findings suggest the assumption of "like grandmother, like mother":

the *intensely mediating dyads* and the *slightly mediating dyads*. The vast literature on the unique complicated nature of mother-daughter relationships grounded in psychology—for example, see the discussion of Chodorow's (1978) formative work about the reproduction of mothering in Bueskens (2021)—supports such interpretation. It proposes that motherhood is reproduced through the conflicting processes of identification and blurred boundaries with one's mother on the one hand and the struggle for separation and individuation from her on the other, which affect all aspects of daughters' lives and their socialization to motherhood (Boyd, 1989).

Armstrong's (2017) four conceptual pillars for explaining intergenerational transmission concerning career ambitions are particularly helpful to our analysis. She suggests (a) a focus on the interplay between historical and biographical time, in which we can locate the dramatic changes in technology between the two generations and their personal experience mastering them; (b) an understanding of the family as a site of social practices and reservoir of important memories, which may also include childhood media-related practices and memories of the role of media in family life; (c) family values that are transmitted and transformed across the generations, including those related to the potential benefits and harms of media in children's lives; and finally (d) the intersection of gender and generation, which can help to explain changes in conceptions of motherhood and expectations from that role across the generations, including perceptions of the gendered nature of technology and its uses. Thus, we can interpret similarities and differences between grandmothers and mothers and the various dyad clusters found in this study within this transmission model.

Both the *intensely mediating dyads* and the *slightly mediating dyads* support intergenerational transmission, because practices that dominated the mediation style of one generation were found to be aligned with those of the other. This can result from different trajectories: Mothers who have been socialized as children by their mothers to a particular media worldview continue to apply the same mediation approach to their children. Alternatively, mothers who develop their independent approach to media practices may transmit it "up" to their mothers by providing them with a current, up-to-date mediation model and setting expectations that the grandmothers will conform to it. A third possibility is that both processes are happening simultaneously: Grandmothers and mothers continue to have symbiotic relationships that feed each other. Mothers also tend to be more willing to compromise than their daughters, which can help explain the grandmothers' acceptance of mediation rules set by the mothers, even if they do not necessarily agree with them. This is also in line with the finding that mothers and daughters tend to avoid conflictual issues and attempt to resolve conflicts between them swiftly (Friedman, 2011).

Naturally, these processes may be affected by the dyad's characteristics. Specifically, the *intensely mediating dyads* were characterized by the highest rates of grandmothers and mothers with academic education, a factor significantly associated with mediation (e.g., Valkenburg et al., 1999). In the *slightly mediating dyads*, the mothers and the grandmothers were less educated and had more children to care for. Accordingly, they may have had less awareness of the importance of mediation and less time and energy for it. Moreover, the children's screen time under their mother's watch was highest in this dyad. The mothers may have thus felt uncomfortable instructing the grandmothers to do what they did not do themselves.

The *generational gap* cluster, in which we found mothers who intensely mediate their children's media use and grandmothers that only slightly do so, requires us to examine the breakdown in this

transmission process. We may pursue the alternative route recognized in the literature of mother-daughter relationships, like that of a stronger tendency for separation and autonomy (Boyd, 1989). However, the mothers in this dyad were significantly more educated and had more digital literacy than the grandmothers, so they provide an alternative comprehensive explanation for the gap that can be interpreted as part of intergenerational mobility.

Overall, the three clusters of mediation dyads identified in this study shed light on the possible obstacles to effective and balanced mediation. Whereas an *intensely mediating dyad* is probably the most beneficial for developing children's healthier media habits and their more advanced media literacy, only 35% of the dyads were of this type. Most children were socialized to media uses by *slightly mediating* (25%) or *generational gap* (40%) dyads. Children being cared for by *slightly mediating dyad* are denied the positive impacts of mediation on their cognitive, social, and emotional development (Clark, 2011; Pempek & Lauricella, 2017) and are at risk of the negative impacts caused by unsupervised and exaggerated media exposure (Lemish, 2015). The situation of children of *generational gap dyads* is no less concerning. They might find themselves with contradicting and inconsistent media-related instructions and expectations, which could be especially harmful to younger children and children cared for by their grandmothers very frequently.

Limitations and Future Research

As the first to explore multigenerational mediation of children's media use, this study provided many new insights. However, it has several limitations that should be acknowledged. First, the study was limited to 4–8 years old children, mothers who participate in online panels (which may be biased toward lower socioeconomic status), grandmothers who watch over their grandchildren at least once a week, and one national context. Second, this study did not explore certain variables that could explain the differences between the mothers and the grandmothers (e.g., the quality of their relationships with the child) and among the dyads (e.g., the quality of the relationships between the mother and the grandmother). Third, the study did not consider additional mediators (e.g., fathers, grandfathers, siblings, nannies) and the children's perspective.

Future research should examine multigenerational mediation in additional family contexts and more diverse populations, such as immigrant families. Studies should also explore other mediators and apply a longitudinal approach and qualitative methods to deepen understanding of the impacts of contradicting mediation practices on family dynamics and child development. The grandmother-mother dyad mediation could be expanded and developed to child-mother-grandmother mediation, and future studies could investigate the complex dynamics of children's media use and family interactions.

Additional research should also include factors that may help to explain generational gaps and differences among dyads. Specifically, it would be of value to look at differences in other aspects of caregiving (e.g., approaches to homework, eating and hygiene-related behaviors, and outdoor activities). Armstrong's (2017) model may help delineate these aspects in the personal biography of the children's mothers and the nature of their relationships with their mothers within the context of family life and beyond. Future studies could explore such differences by examining mothers' and grandmothers' approaches to childrearing, mothering, and grandmothering while examining mediation of children's media use as embedded in them more generally.

References

Armstrong, J. (2017). *Like mother, like daughter? How career women influence their daughters' ambition*. Bristol, UK: Policy. doi:10.56687/9781447334095

Austin, E. W., Bolls, P., Fujioka, Y., & Engelbertson, J. (1999). How and why parents take on the tube. *Journal of Broadcasting and Electronic Media, 43*(2), 175–192. doi:10.1080/08838159909364483

Bangerter, L. R., & Waldron, V. R. (2014). Turning points in long distance grandparent–grandchild relationships. *Journal of Aging Studies, 29*, 88–97. doi:10.1016/j.jaging.2014.01.004

Bernal, J. G., & Anuncibay, R. (2008). Intergenerational grandparent/grandchild relations: The socioeducational role of grandparents. *Educational Gerontology, 34*(1), 67–88. doi:10.1080/03601270701763993

Beyens, I., Valkenburg, P. M., & Piotrowski, T. (2018). Developmental trajectories of parental mediation across early and middle childhood. *Human Communication Research, 45*(2), 226–250. doi:10.1093/hcr/hqy016

Boyd, C. J. (1989). Mothers and daughters: A discussion of theory and research. *Journal of Marriage and Family, 51*(2), 291–301. doi:10.2307/352493

Bueskens, P. (Ed.). (2021). *Nancy Chodorow and the reproduction of mothering forty years on*. Cham, Switzerland: Springer.

Busch, G. (2018). How families use communication technologies during intergenerational Skype sessions. In S. J. Danby, M. Fleer, C. Davidson, & M. Hatzigianni (Eds.), *Digital childhoods: Technologies and children's everyday lives* (pp. 17–32). Cham, Switzerland: Springer.

Chen, L., & Shi, J. (2019). Reducing harm from media: A meta-analysis of parental mediation. *Journalism & Mass Communication Quarterly, 96*(1), 173–193. doi:10.1177/1077699018754908

Chodorow, N. (1978). *The reproduction of mothering: Psychoanalysis and the sociology of gender*. Berkeley: University of California.

Clark, L. S. (2011). Parental mediation theory for the digital age. *Communication Theory, 21*(4), 323–343. doi:10.1111/j.1468-2885.2011.01391.x

Cohen, B. (2021). *Grandparental mediation of media use: The role of grandmothers as mediators of grandchildren's media uses* (Unpublished MA thesis). Ben-Gurion University of the Negev, Beer Sheva, Israel.

Di Gessa, G., Glaser, K., & Tinker, A. (2015). The health impact of intensive and nonintensive grandchild care in Europe: New evidence from SHARE. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 71*(5), 867–879. doi:10.1093/geronb/gbv055

Dunifon, R. E., Near, C. E., & Ziol-Guest, K. M. (2018). Backup parents, playmates, friends: Grandparents' time with grandchildren. *Journal of Marriage and Family, 80*(3), 752–767. doi:10.1111/jomf.12472

Elias, N., Lemish, D., & Nimrod, G. (2020). Grandparental mediation of children's digital media use. In L. Green, D. Holloway, K. Stevenson, T. Leaver, & L. Haddon (Eds.), *The Routledge companion to digital media and children* (pp. 96–107). New York, NY: Routledge.

Elias, N., Lemish, D., & Nimrod, G. (2021). Factors explaining grandparental mediation of children's media use in two national contexts. *Television and New Media, 22*(8), 946–965. doi:10.1177/1527476420961334

Elias, N., Lemish, D., & Rovner-Lev, G. (2021). Food for thought: Parent-child face-to-face communication and mobile phone use in eateries. *Journal of Family Communication, 21*(4), 272–286. doi:10.1080/15267431.2021.1953501

Elias, N., Nimrod, G., & Lemish, D. (2019). The ultimate treat? Young Israeli children's media use under their grandparents' care. *Journal of Children and Media, 13*(4), 472–483. doi:10.1080/17482798.2019.1627228

Friedman, A. (2011). *Mehubarot: Imahot vebanot* [Connected: Mothers and daughters]. Bney Brak, Israel: Hakkibutz Hameuchad.

Gabai, N. (2021). *Perceptions and practices of parental mediation of mothers and fathers of kindergarten children* (Unpublished MA thesis). Ben-Gurion University of the Negev, Beer Sheva, Israel.

Gamliel, T., & Gabay, N. (2014). Knowledge exchange, social interactions and empowerment in an intergenerational technology program at school. *Educational Gerontology, 40*(8), 597–617. doi:10.1080/03601277.2013.863097

Hank, K., Cavrini, G., Di Gessa, G., & Tomassini, C. (2018). What do we know about grandparents? Insights from current quantitative data and identification of future data needs. *European Journal of Ageing, 15*(3), 225–235. doi:10.1007/s10433-018-0468-1

Holladay, S. J., & Seipke, H. L. (2007). Communication between grandparents and grandchildren in geographically separated relationships. *Communication Studies, 58*(3), 281–297. doi:10.1080/10510970701518371

Horsfall, B., & Dempsey, D. (2015). Grandparents doing gender: Experiences of grandmothers and grandfathers caring for grandchildren in Australia. *Journal of Sociology, 51*(4), 1070–1084. doi:10.1177/1440783313498945

Hunt, D. S. (2012). *Technology and the grandparent-grandchild relationship: Learning and interaction* (Unpublished MA Thesis). University of Toledo, Toledo, Spain.

Ivan, L., & Hebblethwaite, S. (2016). Grannies on the net: Grandmothers' experiences of Facebook in family communication. *Romanian Journal of Communication and Public Relations, 18*(*1*), 11–25. doi:10.21018/rjcpr.2016.1.199

Lemish, D. (2015). *Children and media: A global perspective*. Chichester, UK: John Wiley & Sons.

Li, B., & Shin, W. (2017). Parental mediation of children's digital technology use in Singapore. *Journal of Children and Media, 11*(1), 1–19. doi:10.1080/17482798.2016.1203807

Livingstone, S., Haddon, L., Görzig, A., & Ólafsson, K. (2011). *Risks and safety on the Internet: The perspective of European children*. EU Kids Online. Retrieved from http://eprints.lse.ac.uk/33731

Nathanson, A. I. (1999). Identifying and explaining the relationship between parental mediation and children's aggression. *Communication Research, 26*(2), 124–143. doi:10.1177/009365099026002002

Nikken, P., & Jansz, J. (2014). Developing scales to measure parental mediation of young children's Internet use. *Learning, Media, and Technology, 39*(2), 250–266. doi:10.1080/17439884.2013.782038

Nikken, P., & Schols, M. (2015). How and why parents guide the media use of young children. *Journal of Child and Family Studies, 24*, 3432–3435. doi:10.1007/s10826-015-0144-4

Nimrod, G., Elias, N., & Lemish, D. (2019). Measuring mediation of children's media use. *International Journal of Communication, 13*, 342–358. Retrieved from https://ijoc.org/index.php/ijoc/article/view/10237

Nimrod, G., Lemish, D., & Elias, N. (2022). Grandparenting with media: Patterns of mediating grandchildren's media use. *Journal of Family Studies, 28*(1), 70–88. doi:10.1080/13229400.2019.1679660

Öztürk, M. S., & Hazer, O. (2017). The intergenerational activities: Perspectives of young grandchildren. *Dumlupinar Universitesi Journal of Social Sciences, 53*, 55–71.

Pempek, T. A., & Lauricella, A. R. (2017). The effects of parent-child interaction and media use on cognitive development in infants, toddlers, and preschoolers. In F. C. Blumberg & P. J. Brooks (Eds.), *Cognitive development in digital contexts* (pp. 53–74). London, UK: Elsevier.

Raffle, H., Revelle, G., Mori, K., Ballagas, R., Buza, K., Horii, H., . . . Spasojevic, M. (2011). "Hello, is grandma there? Let's read!" StoryVisit: Family video chat and connected e-Books. *Session: Families*. Retrieved from http://www.nataliefreed.com/wp-content/uploads/2012/01/p1195-raffle.pdf

Rasmussen, E. E., Keene, J. R., Berke, C. K., Densley, R. L., & Loof, T. (2017). Explaining parental coviewing: The role of social facilitation and arousal. *Communication Monographs, 84*(3), 365–384. doi:10.1080/03637751.2016.1259532

Sawchuk, K., & Crow, B. (2012). "I'm g-mom on the phone": Remote grandmothering, cell phones and inter-generational dis/connections. *Feminist Media Studies, 12*(4), 496–505. doi:10.1080/14680777.2012.741863

Smahelova, M., Juhová, D., Cermak, I., & Smahel, D. (2017). Mediation of young children's digital technology use: The parents' perspective. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace, 11*(3), Article 4. doi:10.5817/CP2017-3-4

Smith, P. K. (2005). Grandparents & grandchildren. *The Psychologist, 18*, 684–687. Retrieved from https://www.bps.org.uk/psychologist/grandparents-and-grandchildren

Steinfeld, N. (2021). Parental mediation of adolescent Internet use: Combining strategies to promote awareness, autonomy and self-regulation in preparing youth for life on the web. *Education and Information Technologies, 26*(2), 1897–1920. doi:10.1007/s10639-020-10342-w

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Boston, MA: Allyn & Bacon/Pearson Education.

Valkenburg, P. M., Krcmar, M., Peeters, A. L., & Marseille, N. M. (1999). Developing a scale to assess three styles of television mediation: "Instructive mediation," "restrictive mediation," and "social coviewing." *Journal of Broadcasting & Electronic Media, 43*(1), 52–66. doi:10.1080/08838159909364474

Warren, R. (2003). Parental mediation of preschool children's television viewing. *Journal of Broadcasting & Electronic Media, 47*(3), 394–417. doi:10.1207/s15506878jobem4703_5