Burden and Growth during COVID-19: Comparing Parents of Children with and without Disabilities

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Abstract
The COVID-19 pandemic and the measures taken to contain it have had a disproportionate impact on families with young children, especially with disabilities. This study examined factors associated with burden and growth among parents of young children in Israel, while comparing parents of children with and without disabilities. We hypothesized that the association between family functioning, informal social support, and perceived adequacy of educational services and burden and growth would be moderated by disabilities. An online questionnaire was completed by 675 parents of young children, 95 of them with disability. The moderating effect of disability on burden and growth was examined using PROCESS. Compared to parents of children without disabilities, greater burden was found among parents of children with disabilities, but levels of growth were similar. External support was lacking for both parent groups. Educational services were perceived as severely inadequate. Lower perceived adequate educational services were associated with greater burden. On the other hand, higher levels of family functioning (i.e., family cohesion and adaptability) and greater adequacy of educational services were associated with growth. The results show that while burden was greater for parents of children with disabilities, growth during the COVID-19 period was possible for parents of both groups. The findings also pointed to the importance of the family system for sustaining the wellbeing of its members in lockdown situations. Put together, the findings highlight the importance of planning for such national and global emergencies.

Keywords COVID-19 · Educational system · Israel · Parents · Supports

Highlights
- Levels of burden are higher among parents of children with disabilities.
- Informal sources of support for families during COVID are minimal.
- Enhanced family functioning during COVID is associated with lower burden and higher growth.
- Inadequacy of educational services is associated with greater burden and lower growth.

Introduction
The COVID-19 pandemic involves a range of predictable and less predictable outcomes for different populations worldwide. Its severity varies: most people infected by the disease experience mild to moderate symptoms, yet it can be serious or even deadly for older people and those with underlying medical problems (World Health Organization, 2020). Therefore, many countries have imposed various degrees of lockdown, social distancing, and quarantine to counteract the risk of contamination (Lau et al., 2020; Piguillem & Shi, 2020). The long-term consequences of lockdown and social distancing for mental health and wellbeing are yet to be determined (Holmes et al., 2020; Wang et al., 2020). Nevertheless, various indicators suggest that such long quarantining can be stressful (Hawryluck et al., 2004), with greater risk of vicarious traumatization for the public (Li et al., 2020).
We conducted this study during the first wave of the pandemic in Israel, when strict protective measures were undertaken. Specifically, during March 2020, early childhood education settings and schools, including special education schools, as well as cafés and malls, were closed and gatherings were restricted to ten individuals (Druckman, 2020). On March 25, the government prohibited venturing more than 100 meters away from one’s home. In April, during the holidays of Passover and Independence Day, full lockdown was imposed (Israel Ministry of Health, 2020a). Partial easing of many of these restrictions began towards the end of April (Israel Ministry of Health, 2020b).

The COVID-19 Pandemic and its Impact on Families and Parents

The COVID-19 global crisis creates threats to families and parents in terms of their relationships, rules, rituals, and routines, which can have major implications for the families, and especially the parents’ burden and wellbeing (Prime et al., 2020). Some families may be more impacted than are others due to prior circumstances, such as those with lower income, disabilities, and/or belonging to marginalized groups in society (Vasquez, 2012). Still, the impact of the pandemic on families and parents’ wellbeing is unknown (Prime et al., 2020).

To address this gap, we focused on families with young children from early childhood education years to the end of elementary school. Note that in Israel, the use of early childhood education (either public or private) is quite extensive (Holler & Gal, 2011). These families may be especially prone to burden during lockdown, as it means being confined to home with a child 24 hours a day (degli Espinosa et al., 2020). Other aspects of parental burden include receiving conflicting information from the media and fear of the unknown (Mowbray, 2020, Torales et al., 2020); loss of employment or the need to reconcile (remote) work and family life, and disruption of social networks (Holmes et al., 2020).

The literature on coping with traumatic or challenging life situations shows that beyond the burden, such situations may also lead individuals to experience positive change. More than two decades ago, the term posttraumatic growth (hereafter, “growth”) was coined, to characterize individuals who have not only survived a crisis but have also experienced positive psychological changes in struggling with highly difficult life situations (Tedeschi & Calhoun, 1995, 2004). Recently, the growth framework has expanded beyond focusing on the individual’s cognitive process to recognize the crucial role of the social context, including proximate factors such as informal support from family and friends and distal factors such as formal support from social and welfare services (Berger, 2015; Schroevers et al., 2010). Studies relying on the posttraumatic growth framework have examined acute types of crises (e.g. bereavement, house fire) and various national emergencies and crises (Kehl et al., 2015; Nishi et al., 2016), as well as ongoing and repeatedly challenging life circumstances (e.g. inflammatory bowel disease, arthritis) (Hamama-Raz et al., 2021, Tedeschi & Calhoun, 2004). As such, the notion of posttraumatic growth has been considered to be both an outcome and a process (Tedeschi & Calhoun, 2004), and can thus be utilized for understanding ongoing crises. This study is the first to examine growth in families coping with COVID-19.

We explored factors associated with burden and growth among parents of young children. In addition, we examined differences in burden and in growth and factors associated with these outcome variables (see below) among parents of children with and without disabilities. Finally, we examined the role of having a child with disability as a moderating variable between each of the factors on the one hand, and burden and growth on the other.

Factors Associated with Burden and Growth

Given that the burden and growth framework is multifaceted and driven not only by intrapersonal, but also by familial and environmental factors (Berger, 2015), three factors or variables were selected for this study: family functioning (in the form of family cohesion and adaptability), support, and adequacy of educational services.

Family cohesion is defined as the emotional bonding between family members, while adaptability is the family’s ability to remain flexible and respond to situational or developmental needs (Place et al., 2005). Olson (2011) referred to family cohesion and adaptability jointly as “family functioning”. Numerous studies have found cohesion and adaptability to be family resources crucial for coping with external stressors and decreasing psychological distress (Olson et al., 2019). Research has also associated these resources with growth (Augustine, 2014; Findler, 2014). They are likely to be even more important during COVID-19 lockdown periods, as family members spend most of their time together and as other sources of support or recreation are lacking (Ragamayi, 2020).

The second potential factor associated with burden and growth examined in this study was perceived informal social support, defined as the availability of people able to provide emotional, material and informational support in times of need (Auslander et al., 2005), and considered an important resource in adversity. Given that the COVID-19 pandemic and the associated restrictions have forced people to stay at their homes, we focused specifically on the type of support that can be provided within the home setting, e.g. domestic work and childcare. Informal social support helps individuals develop resilience and mitigate stress (Sehmi et al., 2019), as well as experience growth (Berger, 2015).
Conversely, social distancing may reduce social support, threaten an individual’s sense of connectedness, and take a considerable toll on mental health (Hawryluck et al., 2004). Moreover, lack of social support may reduce the ability to cope with stressful situations or even handle daily domestic chores. This is especially true in Israel – a familial society characterized by strong bonds with the extended family and grandparents (Fogiel-Bijaoui, 2009).

Finally, the third factor examined was perceived adequacy of educational services. For the purpose of this study, these included all day settings, meaning early childhood education and primary schools. Studies have shown that availability and adequacy of professional services are associated with higher levels of growth (Elderton et al., 2017; Song, 2012). We focused on educational services for three reasons. First, the education system is one of the main systems providing support and services for children in their tender years. Second, studies have shown that parents rely on supports within these systems and that consequently, their lack may have a detrimental impact on parents’ wellbeing (Epstein et al., 2009). Finally, this variable was selected given that one of the most negative consequences of COVID-19 was the closure of the education system. During the lockdown, Israeli early childhood education settings and schools either suspended their activities altogether or moved gradually to distance learning. However, the scope and quality of this transition varied across settings – and the social consequences could not be ameliorated using the internet. Sporadic media reports in Israel suggested that many parents experienced these inadequate educational services as stressful (Dattel, 2020).

Beside the above factors, coping with a child’s disability may have an impact on the parents’ burden and growth in routine (Neely-Barnes & Dia, 2008), and in particular during the current pandemic, as described in the following subsection.

Families with Children with Disabilities

Evidence from the few studies that have examined the impact of COVID-19 on families suggests that both the pandemic itself and measures to control it have had a disproportionate impact on families with children with disabilities (Asbury et al., 2020; degli Espinosa et al., 2020). For example, compared to the general community, children with disabilities may experience exacerbation of their needs, extra difficulties in dealing with the disruption of their daily routines, including limited access to essential services and sources of informal and formal support, which can lead to greater isolation and loneliness (degli Espinosa et al., 2020; Holmes et al., 2020, Narzisi, 2020). Finally, some children with disabilities may experience greater difficulties in adjusting to distance learning, which may not be accessible and tailored for their needs.

These negative consequences are also likely to disproportionately affect parents whose child has a disability. These parents might experience greater worry, financial difficulties, stress (Asbury et al., 2020), and greater mental health needs (Willner et al., 2020), as well as higher pressure to reconcile their caregiving role with their paid employment (degli Espinosa et al., 2020). Nevertheless, many studies conducted prior to the pandemic have found that parents of children with disabilities can also experience growth out of their parenting experience (Counselman-Carpenter, 2017; Strecker et al., 2014).

Having a child with disability may also play a moderating role. For one, the family plays a unique, central role in meeting the needs of the child with a disability (Kokorelias et al., 2019). Thus, healthy family functioning in the form of cohesion and informal support is highly important for enhanced family climate and wellbeing (Cuzzocrea et al., 2013). Further, families of individuals with disabilities have experienced lower social support during the COVID-19 pandemic (Willner et al., 2020). Formal support in the form of educational, rehabilitation and welfare services is also highly important in maintaining wellbeing (Werner et al., 2019). Thus, we also aim to examine whether having a child with disability moderates between the above factors as independent variables and burden and growth.

Hypotheses

In line with the above literature, we examined the following hypotheses:

$H_1$ Parents of children with disabilities would report a higher level of burden compared to parents of children without disabilities, but similar levels of growth.

$H_2$ Greater family functioning would be associated with lower burden and higher growth.

$H_3$ Greater social support would be associated with lower burden and higher growth.

$H_4$ Perceiving educational services as adequate would be related to lower burden and higher growth.

$H_5$ The association between the three independent variables – family functioning, informal social support, and perceived adequacy of educational services – and burden and growth would be moderated by disabilities. Specifically, stronger positive association would be found between each of the three independent variables and growth, while stronger negative association would be found between each independent variable and burden among parents of children with disabilities compared to parents of children without disabilities.
Methods

Participants

Participants were 673 parents (620 mothers) of children aged 2 to 12 years. Out of the participants, 613 (91.1%) were two-parent families, 56 (8.3%) were single-parent families (for four participants this item was missing). Participants’ mean age was 38.52 (SD = 5.59). They had an average of 16.65 (SD = 2.90) years of education. Nearly half (323) reported an average socioeconomic level (1.8% way below average, 10.4% below average, 48.0% above average, 5.6% way above average). Further, 613 (91.1%) reported being in a spousal relationship. Participants had an average of 2.59 (SD = 1.11) children.

Ninety-three participants (13.82%) reported having a child with a disability. According to parental reports, disabilities included autism spectrum disorders (n = 44), intellectual disabilities (n = 10), ADHD (n = 8), motor impairment (n = 8), developmental impairments (n = 7), medical and genetic problems (n = 5), hearing impairment (n = 2), mental illness (n = 1), combined diagnoses (n = 5), and other unidentified diagnoses (n = 3). The children with disabilities had a mean age of 6.87 years (SD = 2.92) and most (69.9%) were boys. In terms of their routine (pre-COVID) day setting, 48 (51.6%) were in a special education school or kindergarten, 30 (32.3%) were in a general education kindergarten or school, 12 (12.9%) were in a special education classroom within a general education school, and three (3.2%) were in a private kindergarten.

Instruments

Dependent Variables

Burden was measured with one item created for the current study: “When you compare yourself to other families, to what extent do you feel that the current crisis imposes a burden on you?” (rated on a 5-point scale from 1 = very little to 5 = very much).

Growth was measured using eight out of the 10-item short form Posttraumatic Growth Inventory (Cann et al., 2010) (1 = very little to 5 = very much); for example, “I am able to do better things with my life”. This scale is composed of five underlying factors that together produce a single higher-order factor (Cann et al., 2010). Two items from the “Spiritual Change” factor were removed as we suspected that non-religious participants would face difficulties answering them. A mean score was calculated for the remaining eight items with higher means indicating higher growth. The internal reliability of the original scale (Cronbach α = 0.93) and that used in the current study (Cronbach α = 0.86) were good.

Independent Variables

Family Functioning Comprising family cohesion and adaptability, this variable was measured by adapting the Hebrew version (Teichman & Navon, 1990) of the Family Adaptability and Cohesion Evaluation Scales (FACESIII; Olson et al., 1985). The original scale includes 20 items, 10 measuring cohesion (degree of connectedness or separation) and 10 measuring adaptability to change (degree of flexibility in family). For the sake of brevity, five items were selected from each subscale, e.g., “Family members ask each other for help”, and “Our family tries new ways of dealing with problems”. Participants were asked to rate how each item characterized their families in the previous month (i.e. during the COVID-19 lockdown) on a scale from 1 = almost never to 5 = nearly always.

Olson (2011) suggested that a total score could be created to provide a summary of “family functioning”. Thus, similarly to others (Lemos et al., 2019; Uruk et al., 2007), adaptability and cohesion were examined as an overall index by averaging all items with a higher mean representing healthier family functioning. The internal reliability of the index in the current study was adequate (Cronbach α = 0.73).

Perceived Informal Social Support These items were created especially for the current study. Parents were asked to report the extent to which they had sought help in domestic work and childcare from each of five sources: spouse, grandparent/other family member, babysitter, neighbors/friends, one of the children in the previous month (i.e. during the COVID-19 lockdown). Participants from both single- and two-parent families were asked to report on all sources of support, as some parents who considered themselves single (n = 39) acknowledged having support from a partner. Each item was rated from 1 = to a very low extent to 5 = very much. We did not expect these items to provide a total index score, as parents were likely to use help from several sources. Thus, these items were analyzed separately rather than as an index score.

Perceived Adequacy of Educational Services This included two items in which parents were asked to relate to the current COVID crisis: (1) To what extent does the education system provide your child with adequate academic services? (2) To what extent does the education system provide services that meet your child’s needs? Both were rated from 1 = to a very low extent to 5 = very much. The Pearson correlation between these two items was high (r = 0.70, p < 0.001). A mean score of the two items was calculated.

Demographic Information Age, gender, educational attainment in years, marital status, self-reported financial situation (from 1 = much lower than average to 5 = much higher than
average), and number of children. Parents were asked to report the child’s age and gender, and parents of children with disabilities also reported on the primary diagnosis.

**Procedure**

**Data Collection**

Data were collected via an online survey in Hebrew utilizing the Qualtrics software that was distributed via WhatsApp and Facebook groups. We sought groups for parents of children with disabilities as well as general parent groups. We applied snowball sampling and approached social media groups using keywords such as “parents” and “disabilities”. Data were collected between April 21 and 30, 2020. During that period, Israel was under almost full lockdown, with early childhood education settings and schools shut down, substantial movement restrictions, and prohibition of visiting grandparents or any non-nuclear family members. The study protocol was approved by the Ethics Committee of the (blinded) School at the (blinded) University. Before completing the survey, participants were asked for their informed consent.

**Data Analyses**

Data were analyzed using SPSS version 25. First, we examined the overall distribution of the main variables as well as differences in these variables between parents of children with and without disabilities. Second, bivariate Pearson correlations were calculated to examine the relations between each independent variable and burden and growth. Bonferroni correction for multiple comparisons was applied for bivariate analyses. Third, we examined the moderating effect of disability on the relationships between each independent variable and the dependent variables using Model 1 of the PROCESS procedure in SPSS (Preacher & Hayes, 2008). The main and interaction effects of disability on each independent variable were included while controlling for all other independent variables. All variables were centered prior to analysis to help clarify regression coefficients without altering the overall R² (Iacobucci et al., 2017). This model enabled us to examine the main and interaction terms, as well as the unique contribution of each to the explained variance in the dependent variables.

**Results**

**Distribution of Main Variables**

Table 1 shows the means and standard deviations of the main variables for all parents in the sample. As shown, participants’ reported levels of burden and growth were both above the midpoint of the 1-5 scale. Family functioning was also above the midpoint. Participants reported receiving support primarily from their spouses, followed by

| Variable                        | Overall M (SD) | Parents of children with disabilities M (SD) | Parents of children without disabilities M (SD) | T-test | p    |
|---------------------------------|---------------|-----------------------------------------------|-------------------------------------------------|-------|------|
| Background                      |               |                                               |                                                 |       |      |
| Age                             | 38.52 (5.59)  | 39.03 (5.15)                                  | 38.44 (5.66)                                    | 0.93  | 0.352|
| Socioeconomic status (1-5)      | 3.32 (0.80)   | 3.18 (0.88)                                   | 3.34 (0.79)                                    | 1.71  | 0.087|
| Number of children              | 2.59 (1.11)   | 2.73 (1.26)                                   | 2.56 (1.08)                                    | 1.36  | 0.175|
| Dependent variable              |               |                                               |                                                 |       |      |
| Burden (1-5)                    | 3.32 (1.16)   | 3.73 (1.24)                                   | 3.25 (1.13)                                    | 3.74  | 0.000|
| Growth (1-5)                    | 3.03 (0.85)   | 2.94 (0.92)                                   | 3.05 (0.83)                                    | 1.01  | 0.317|
| Independent variables           |               |                                               |                                                 |       |      |
| Family functioning (1-5)        | 3.74 (0.49)   | 3.74 (0.58)                                   | 3.74 (0.48)                                    | 0.04  | 0.966|
| Support (1-5)                   |               |                                               |                                                 |       |      |
| Spouse                          | 3.88 (1.33)   | 3.78 (1.57)                                   | 3.90 (1.29)                                    | 0.66  | 0.510|
| Grandparents/family             | 1.39 (0.97)   | 1.31 (0.84)                                   | 1.41 (0.99)                                    | 0.082 | 0.411|
| Babysitter                      | 1.20 (0.72)   | 1.41 (1.06)                                   | 1.16 (0.65)                                    | 1.98  | 0.051|
| Neighbors/ friends              | 1.28 (0.70)   | 1.16 (0.59)                                   | 1.30 (0.71)                                    | 1.81  | 0.073|
| Child                           | 2.16 (1.33)   | 2.28 (1.48)                                   | 2.14 (1.31)                                    | 0.83  | 0.409|
| Adequacy of educational services (1-5) | 2.04 (1.00) | 1.80 (0.94)                                   | 2.07 (1.01)                                    | 2.49  | 0.013|

*Note. Following a Bonferroni correction, p values were set at 0.004.*
Table 2 Correlations between the independent variables of growth and burden

| Predictor                        | Growth | p     | Burden* | p     |
|----------------------------------|--------|-------|---------|-------|
| Growth                           | –      | –0.04 | 0.280   |       |
| Parent age                       | –0.06 | 0.106 | –0.07   | 0.067 |
| SES*                             | –0.18 | 0.000 | –0.10   | 0.008 |
| Family functioning               | 0.23   | 0.000 | –0.09   | 0.017 |
| Support from spouse*             | –0.08 | 0.036 | 0.08    | 0.050 |
| Support from grandparent/family* | 0.05   | 0.269 | 0.03    | 0.448 |
| Support from babysitter*         | –0.06 | 0.184 | 0.07    | 0.076 |
| Support from neighbors/friends*  | 0.01   | 0.736 | –0.03   | 0.547 |
| Adequacy of educational services | 0.10   | 0.016 | 0.00    | 0.997 |

Note. *Spearman’s R; following a Bonferroni correction, p values were set at 0.005.

one of the children. Nearly no help was sought from any of the other sources. Parents’ ratings of the adequacy of educational services were low.

Bivariate Correlations

Table 2 presents the bivariate correlations between the background variables, the three factors, and burden and growth. Of the demographic variables, socioeconomic status was negatively associated with growth. No differences were found between two- and one-parent households in either burden, $t_{(663)} = 0.288$, $p = 0.774$, or growth, $t_{(662)} = 0.923$, $p = 0.356$. As hypothesized, statistically significant though moderate correlations were found between family functioning and growth, and between perceived adequacy of educational services and both burden and growth. As expected, the associations were negative for burden and positive for growth.

Differences between Parents of Children with and without Disabilities

As indicated in Table 1, while no significant differences were found in the demographic background of both groups of participants, as hypothesized, parents of children with disabilities reported significantly higher levels of burden than did parents of children without disabilities. Finally, no significant between-group differences were found in growth, healthy family functioning, perceived educational services or social support.

Moderation Models

Tables 3 and 4 depict findings from our moderation models predicting burden and growth. Only variables found to be significantly associated with the dependent variable at the bivariate level were entered into the equation; specifically, family functioning, support from spouse, support from child and adequacy of educational services. We opted not to enter support from grandparent/family, support from babysitter and support from neighbors/friends into the moderation models, given that the variability for these variables was quite low (82.5%, 91.3% and 81.8% of participants rated having very little help from these three sources, respectively). Further, we controlled for background variables that were significantly associated with the dependent variable at the bivariate level. A post-hoc power analysis was conducted with $f^2 = 0.085$, $R^2 = 0.078$, $N = 580$, $\alpha = 0.05$. For the total regression model, a regression analysis was conducted with ten predictors ($N = 580$, $R^2 = 0.078$ (equals $f^2 = 0.085$), $\alpha = 0.05$, power = 0.99).

As shown on Table 3, direct negative relationships were found between family functioning, perceived adequacy of educational services, and burden. A positive direct relationship was found between having a child with disability, support from a spouse, and burden. As shown in Table 4,
Table 4 Regression model predicting growth (n = 580)

| Predictors                                      | β     | B    | SE   | t     | p     |
|------------------------------------------------|-------|------|------|-------|-------|
| Child with disability (no/yes)                  | −0.038| −0.092| 0.273| 0.945 | 0.345 |
| Socioeconomic status                            | −0.156| −0.164| 0.042| 3.943 | 0.001 |
| Family functioning                              | 0.274 | 0.467 | 0.072| 6.479 | 0.000 |
| Support from spouse × child with disability     | −0.113| −0.042| 0.027| 2.683 | 0.008 |
| Support from child × child with disability      | 0.065 | 0.074 | 0.026| 1.627 | 0.104 |
| Adequacy of educational services × child with disability | 0.090 | 0.076 | 0.034| 2.265 | 0.024 |
| Family functioning × child with disability      | −0.100| −0.480| 0.181| 2.654 | 0.008 |
| Support from spouse × child with disability     | −0.102| −0.718| 0.268| 2.683 | 0.008 |
| Support from a child × child with disability    | −0.079| −0.141| 0.068| 2.078 | 0.038 |
| Adequacy of educational services × child with disability | −0.009| −0.021| 0.099| 0.214 | 0.830 |

Simple slopes of healthy family functioning at child with disability = no/yes

Child with disability

| β     | B    | SE   | t     | p     |
|-------|------|------|-------|-------|
| No    | 0.312| 0.532| 0.078| 6.814 | 0.000 |
| Yes   | 0.031| 0.052| 0.166| 0.314 | 0.754 |

Simple slopes of support of spouse at child with disability = no/yes

Child with disability

| β     | B    | SE   | t     | p     |
|-------|------|------|-------|-------|
| No    | −0.074| −0.047| 0.029| 1.611 | 0.108 |
| Yes   | −0.362| −0.231| 0.060| 3.849 | 0.000 |

Simple slopes of support of another child at child with disability = no/yes

Child with disability

| β     | B    | SE   | t     | p     |
|-------|------|------|-------|-------|
| No    | 0.095| 0.061| 0.028| 2.187 | 0.029 |
| Yes   | −0.126| −0.081| 0.062| 1.293 | 0.197 |

Note. *p < 0.05, **p < 0.01, ***p < 0.001

direct positive relationships were found between family functioning, perceived adequacy of educational services, and growth. Support from a spouse or child were not directly associated with growth. The variance explained by all variables and the interaction terms for the models were between $R^2 = 0.078$, $p < 0.001$ and $R^2 = 0.125$, $p < 0.001$. Having a child with disability was found to moderate five of the above associations. First, while the association between family functioning and burden among parents without a child with disability was negative ($B = −0.350$, $SE = 0.108$, $p < 0.001$), no association was found among parents with a child with disability ($B = 0.398$, $SE = 0.230$, $p < 0.5$; $R^2\text{Change} = 0.014$). Second, among parents with a child with no disability, no association was found between support from a spouse and burden ($B = 0.054$, $SE = 0.040$, $p = 0.176$), whereas a positive association was found for parents with a child with disability ($B = 0.336$, $SE = 0.082$, $p < 0.001$; $R^2\text{Change} = 0.016$). Third, the association between family functioning and growth was positive among parents with no child with disability ($B = 0.532$, $SE = 0.078$, $p < 0.001$), while no such association was found for parents with a child with disability ($B = 0.031$, $SE = 0.052$, $p > 0.05$; $R^2\text{Change} = 0.011$). Fourth, no association was found between support from a spouse and growth among parents with a child with no disability ($B = −0.047$, $SE = 0.029$, $p = 0.108$), while a negative association was found for parents with a child with disability ($B = −0.231$, $SE = 0.060$, $p < 0.001$; $R^2\text{Change} = 0.012$). Finally, a positive association was found between support from another child and growth among parents with a child with no disability ($B = 0.061$, $SE = 0.028$, $p = 0.029$), while no association was found for parents with a child with disability ($B = −0.081$, $SE = 0.062$, $p > 0.01$; $R^2\text{Change} = 0.007$).

Power analyses for the addition of one interaction beyond six predictors ($N = 580$, $\alpha = 0.05$) revealed that for $f^2 = 0.007$ (equals $f^2 = 0.007$), $\alpha = 0.05$, $power = 0.52$; for $R^2 = 0.011$ (equals $f^2 = 0.011$), $\alpha = 0.05$, $power = 0.71$; for $R^2 = 0.012$ (equals $f^2 = 0.012$), $\alpha = 0.05$, $power = 0.75$; for $R^2 = 0.014$ (equals $f^2 = 0.0142$), $\alpha = 0.05$, $power = 0.82$; and for $R^2 = 0.016$ (equals $f^2 = 0.0163$), $\alpha = 0.05$, $power = 0.87$. Power levels over 0.70 are considered moderate; levels over 0.80 are considered good. The power level of 0.52 for the interaction moderation of having a child with a disability between support from another child and growth is considered low and thus should be interpreted with caution. These interactions are depicted in Figs. 1 to 5.

**Discussion**

In this study, we examined factors associated with burden and growth among families of young children with and without disabilities during the COVID-19 pandemic in Israel. In support of the first hypothesis, we found moderate levels of burden in both groups, which were higher among...
parents of children with disabilities; levels of growth were moderate and did not differ between the two groups. In addition, in both groups, informal sources of support beyond the nuclear family were minimal, and educational services were thought to be inadequate. In partial support of the second hypothesis, enhanced family functioning was found to be associated with higher growth, but not with burden. In contrast to Hypothesis 3, social support was not found to be associated with either burden or growth. In line with Hypothesis 4, greater adequacy of educational services was associated with lower burden and higher growth. Finally, in partial support of Hypothesis 5, having a child with a disability was found to moderate five relationships, although some in an opposite direction to that expected.

Burden and Growth

Burden among parents of young children during the COVID-19 pandemic was found to be relatively high, pointing to the potentially acute negative impact of the pandemic and nationwide lockdown on parental wellbeing. Research has indicated that the mental health implications of pandemics can be more prevalent and last longer than the pandemic itself (Ornell et al., 2020). Research also indicates that parents are at higher risk of experiencing greater burden during national emergencies (Norris et al., 2002).

On the positive side, an important finding in this study was that growth was also enabled in the emergency. For some, the closure of early childhood education settings, schools, and other restrictions may have provided an opportunity for growth and development as parents and family – with and without children with disabilities - spent more time together. Thus, during the pandemic or similar other national emergencies, parents may develop personal meaning in their lives and feel able to overcome challenges (Sjøveland et al., 2012).

Family System

Two family-level factors were found to be important. First, parents reported moderate levels of family functioning, which has been shown to be crucial in times of stress, uncertainty, and coping with traumatic events (Uruk et al., 2007). In our study, improved family functioning was associated with parental growth. Second, while informal and formal supports are of importance in times of crisis (Whittaker et al., 2015), given the lockdown, available sources of informal support were limited to members of immediate family living within the household. This finding may be of special importance in Israel, a country characterized by strong family solidarity and frequent contact between nuclear and extended family members. Living in a familialist and geographically small country, Israelis are frequently in close proximity to the extended family, especially grandparents who are often involved in caring for grandchildren (Fogiel-Bijaoui, 2009).
Interestingly, having a child with disability moderated the association between healthy family functioning and both burden and growth. Somewhat surprisingly, a positive correlation between healthy family functioning and burden was found among parents of children with disabilities, while a positive correlation between healthy family functioning and growth was found among parents of a child with no disability. A second surprising finding was that greater support from a spouse was associated with higher burden and lower growth among parents of children with disabilities, compared to parents of children without disabilities. Several explanations may be offered. Given the challenges and burden faced by parents of children without disabilities during the lockdown, parents had to mobilize the resources within the family (e.g., help from spouses and other children) to replace missing welfare, health and educational services in order to support the child with disability. These added demands on the nuclear family system of support could heighten parental distress and burden (Peek & Stough, 2010). For example, it could be that for the spouse to provide support meant leaving paid work or finding new ways to balance family-work demands, which could involve greater burden by itself. Nevertheless, as levels of growth did not differ between the two groups, for parents with children with disabilities, growth may be related to factors not examined in this study, such as the way the parent-child relationship or stress of one spouse affected those of the other – a phenomenon known as crossover or cross-parent effect (Gerstein et al., 2009).

**Educational Services**

Although used to emergency periods and despite the fact that Israel was not part of the first global wave of the pandemic, the results indicated that the local education system was ill prepared to deal with the crisis. In practice, the instructions given to early childhood education and schools teachers and parents were highly confusing. This was due among other things to disagreements about how to teach, teachers’ inexperience in distance teaching and its essential inadequacy for younger kids, the inadequacy of the home environment for both teaching and learning, and its implications for educational equity (Ginzburg, 2020; Israel Ministry of Education, 2020a, b).

Differences in perception of adequacy of educational services between parents of children with and without disabilities were insignificant when Bonferroni correction was employed. Nevertheless, there seems to be a trend towards greater difficulties among families with children with disabilities. This possible trend warrants further research as there seems to be some preliminary evidence from Israel and elsewhere regarding the inadequacy of these services (Zhang et al., 2020). For example, during most of the lockdown period, paramedical services for Israeli children with disabilities were not delivered face-to-face and in many cases not even virtually (Yarkatzi, 2020). In addition, distance learning and curriculum were insufficiently adapted to the unique needs of Israeli children with disabilities (Weisblau, 2020).

Finally, in line with H3, inadequate educational services were associated with higher burden and lower growth. That is, adequate educational services are important for lower burden and higher growth among parents. Several explanations may be offered for this finding. For one, adequate education services relieved parents of the burden of having to assume the teacher’s role. Further, they reduced children’s concerns related to the situation. Lastly, they allowed parents to free time for other tasks, including those conducive to growth.

**Limitations and Future Directions**

The strength of this study lies in its relatively large sample and in the fact that it was conducted during the early peak of the crisis in Israel. However, several limitations must be acknowledged. First, although the sample is relatively large, it was not evenly distributed between the two groups, and the subsample of parents of children with disabilities was relatively small. Further, the study was based on a convenience sample that was recruited via social media applications that were only available in Hebrew. Thus, it is unclear how generalizable they are to the broader Israeli population. Possibly, some preselection effects are in play, in that parents who are less burdened may have been more willing to take the time to fill out the survey. Demographic data in this study was limited and did not include measures of parents’ ethnic group and region of residence. Specifically, our survey was primarily completed by female participants more likely to be more negatively impacted by the crises. Underrepresented or even absent were people from the ultra-Orthodox Jewish and Palestinian-Arab communities in Israel, as were less affluent parents, those without access to social media, and those who may have faced a burden too significant to spare time and attention to complete our questionnaire.

Second, the study used a cross-sectional design, thus we do not have information regarding change across time or on the pre-pandemic situation. Third, our burden variable was limited to one item. In addition, while we attempted to measure parental burden compared to that experienced by other parents, we acknowledge the limitation of the wording of this item in interpreting pre- and post-COVID burden. Fourth, parents of children with disabilities were examined as a group and no comparison was made according to disability type or severity. Finally, we did not examine the adequacy of additional types of services such as welfare and paramedical services.
Future studies should examine differences across disabilities, additional services, and additional population groups and be conducted longitudinally. Studies should also focus on possibly more vulnerable families, such as single-parent families. Studies can be conducted among school-teachers to learn from their experience in adapting their teaching and schools. Finally, it is important to reexamine growth levels when the situation becomes less acute, or in the post-COVID era.

**Conclusions and Implications**

These findings clearly point to the need to plan for national and global emergencies (Boon et al., 2014). In responding to this pandemic and future others, solutions should address not only physical health, but also emotional wellbeing. First, educational services should be enhanced and adjusted to the needs of all children, so that all can be included in distance learning. In this sense, it is important to practice the use of information technologies for online teaching and learning in routine (Brodin & Lindstrand, 2003). Second, given the centrality of parents and the entire nuclear family during lockdown and social distancing, when other sources of informal support are lacking, a more family-oriented practice is of high value. Among other things, parents should be provided with formal emotional and instrumental support and professional online counseling. In addition, given the relatively high burden involved, policies on reconciling work and family life should be strengthened and tailored to the unique needs in emergencies. This is especially crucial for families of children with disabilities.

**Compliance with Ethical Standards**

**Conflict of Interest** The authors declare no competing interests.

**Ethics Approval** Approval was obtained from the ethics committee of the Paul Baerwald School of Social Work and Social Welfare at the Hebrew University of Jerusalem. The procedures used in this study adhere to the tenets of the Declaration of Helsinki.

**Informed Consent** Informed consent was obtained from all individual participants included in the study.

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**References**

Ashbury, K., Fox, L., Deniz, E., Code, A., & Toseeb, U. (2020). *How is COVID-19 affecting the mental health of children with special educational needs and disabilities and their families?* https://doi.org/10.31234/osf.io/sevyd.

Augustine, J. (2014). Predictors of posttraumatic growth among adult tsunami survivors: The role of employment, religion, and family attributes. *Journal of Social Service Research, 40*(4), 491–507. https://doi.org/10.1080/01488376.2014.894368.

Auslander, G. K., Soskolne, V., & Ben-Shahar, I. (2005). Utilization of health social work services by older immigrants and veterans in Israel. *Health & Social Work, 30*(3), 241–251. https://doi.org/10.1093/hsw/30.3.241.

Berger, R. (2015). *Stress, trauma, and posttraumatic growth: Social context, environment, and identities.* Routledge.

Boon, H., Brown, L., & Pagliano, P. (2014). Emergency planning for students with disabilities: A survey of Australian schools. *Australian Journal of Emergency Management, 29*(1), 45–49.

Brodin, J., & Lindstrand, P. (2003). What about ICT in special education? Special educators evaluate information and communication technology as a learning tool. *European Journal of Special Needs Education, 18*(1), 71–87. https://doi.org/10.1080/0885625032000042320.

Cann, A., Calhoun, L. G., Tedeschi, R. G., Taku, K., Vishневsky, T., Triplett, K. N., & Danhauer, S. C. (2010). A short form of the Posttraumatic Growth Inventory. *Anxiety, Stress, and Coping, 23*(2), 127–137. https://doi.org/10.1080/10615800903094273.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Lawrence Erlbaum.

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155–159.

Counselman-Carpenter, E. A. (2017). The presence of posttraumatic growth (PTG) in mothers whose children are born unexpectedly with Down syndrome. *Journal of Intellectual & Developmental Disability, 42*(4), 351–63. https://doi.org/10.3109/13668250.2016.1247207.

Cuzzocrea, F., Larcan, R., & Westh, F. (2013). Family and parental functioning in parents of disabled children. *Nordic Psychology, 65*(3), 271–287. https://doi.org/10.1080/19012276.2013.824201.

Dattel, L. (2020, April 19). Parents protest against distance learning: “Teachers are acting aggressively, threatening students with sanctions”. *The Marker* [Hebrew]. https://www.themarker.com/news/education/1.8781129.

degli Espinosa, F., Metko, A., Raimondi, M., Impenna, M., & Scognamiglio, E. (2020). A model of support for families of children with autism living in the COVID-19 lockdown: Lessons from Italy. *Behavior Analysis in Practice, 13*(2), 1–9. Advance online publication. https://doi.org/10.1007/s40617-020-00438-7.

Druckman, Y. (2020, March 25). From the recommendation not to go to China to the ban on leaving the house: That’s how the Coronavirus crisis unfolded. *The Marker* [Hebrew]. https://www.ynet.co.il/articles/0,7340,L-5709913,00.html.

Elderton, A., Berry, A., & Chan, C. (2017). A systematic review of posttraumatic growth in survivors of interpersonal violence in adulthood. *Trauma, Violence, & Abuse, 18*(2), 223–236. https://doi.org/10.1177/1524838015611672.

Epstein, J. L., Sanders, M. G., Simon, B. S., Salinas, K. C., Rodriguez Jansorn, N., & Van Voorhis, F. L. (2009). *School, family, and community partnerships: Your handbook for action* (3rd ed.). Corwin Press.

Findler, L. (2014). The experience of stress and personal growth among grandparents of children with and without intellectual disability. *Mental Retardation, 52*(1), 32–48. https://doi.org/10.1352/1934-9556-52.1.32.

Fogiel-Bijaoui, S. (2009). Israeli families: Trends and characteristics. *Kaveret, 17*, 12–14. [Hebrew].

Gerstein, E. D., Crnic, K., Blacher, J., & Baker, B. L. (2009). Resilience and the course of daily parenting stress in families of young children with intellectual disabilities. *Journal of Intellectual Disability Research, 53*(12), 981–997. https://doi.org/10.1111/j.1365-2788.2009.01220.x.
Siqveland, J., Hafstad, G. S., & Tedeschi, R. G. (2012). Posttraumatic growth in parents after a natural disaster. *Journal of Loss and Trauma, 17*(6), 536–544. https://doi.org/10.1080/15325024.2012.678778.

Song, L. Y. (2012). Service utilization, perceived changes of self, and life satisfaction among women who experienced intimate partner abuse: The mediation effect of empowerment. *Journal of Interpersonal Violence, 27*(6), 1112–1136. https://doi.org/10.1177/0886260511424495.

Strecker, S., Hazelwood, Z. J., & Shakespeare-Finch, J. (2014). Postdiagnosis personal growth in an Australian population of parents raising children with developmental disability. *Journal of Intellectual and Developmental Disability, 39*(1), 1–9. https://doi.org/10.3109/13668250.2013.835035.

Tedeschi, R. G., & Calhoun, L. G. (1995). *Trauma and transformation: Growing in the aftermath of suffering.* Sage.

Tedeschi, R. G., & Calhoun, L. G. (2004). Target article: “Posttraumatic growth: Conceptual foundations and empirical evidence.” *Psychological Inquiry, 15*(1), 1–18. https://doi.org/10.1207/s15327965pli1501_01.

Teichman, Y., & Navon, S. (1990). Family evaluation: The Circumplex Model. *Psychologia: Israel Journal of Psychology, 2*, 36–46. [Hebrew].

Torales, J., O’Higgins, M., Castaldelli-Maia, J. M., & Ventriglio, A. (2020). The outbreak of COVID-19 coronavirus and its impact on global mental health. *International Journal of Social Psychiatry, 66*(4), 317–320. https://doi.org/10.1177/0020764020915212.

Uruk, A. C., Sayger, T. V., & Cogdal, P. A. (2007). Examining the influence of family cohesion and adaptability on trauma symptoms and psychological well-being. *Journal of College Student Psychotherapy, 22*(2), 51–63. https://doi.org/10.1300/J035v22n02_05.

Vasquez, M. J. (2012). Psychology and social justice: Why we do what we do. *American Psychologist, 67*, 337–346. https://doi.org/10.1037/a0029232.

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., McIntyre, R. S, Choo, F., Tran, B., Ho, B., Sharmah, V. K, & Ho, C. (2020). A longitudinal study on the mental health of general population during the COVID-19 epidemic in China. *Brain, Behavior, and Immunity, S0889-1591(20)30511-0.* Advance online publication. https://doi.org/10.1016/j.bbi.2020.04.028

Weisblau, E. (2020). *Treating special education students in the shadow of the Corona: Initial information and possible points for discussion* [Hebrew]. https://fs.knesset.gov.il/globaldocs/MMM/69d9bb96-806e-ea11-8104-00155d0ae382_69d9bb96-806e-ea11-8104-00155d0ae38_11_13764.pdf.

Werner, S., Stern, I., Roth, D., & Tenenbaum, A. (2019). Help-seeking by parental caregivers of individuals with intellectual disabilities and dual diagnosis. *Administration and Policy in Mental Health, 46*(3), 321–333. https://doi.org/10.1007/s10488-018-00915-w.

Whittaker, J., McLennan, B., & Hadmer, J. (2015). A review of informal volunteerism in emergencies and disasters: Definition, opportunities and challenges. *International Journal of Disaster Risk Reduction, 13*, 358–368. https://doi.org/10.1016/j.ijdrr.2015.07.010.

Willner, P., Rosc, J., Kroeze, B.S., Murphy, G.H., Langdon, P.E., Clifford, C., Hutchings, H., Watkins, A., Hiles, S., & Cooper, V. (2020). Effect of the COVID-19 pandemic on the mental health of carers of people with intellectual disabilities. *Journal of Applied Research in Intellectual disabilities, https://doi.org/10.1111/jar.12811.*

World Health Organization (2020). Coronavirus. https://www.who.int/health-topics/coronavirus#tab_1.

Yarkatzi, D. (2020, March 28). Following parents’ complaints: Exceptions for special education children were approved. *Walla! News* [Hebrew]. https://news.walla.co.il/item/3349149.

Zhang, W., Wang, Y., Yang, L., & Wang, C. (2020). Suspending classes without stopping learning: China’s education emergency management policy in the COVID-19 outbreak. *Journal of Risk and Financial Management, 13*(3), 55 https://doi.org/10.3390/jrfm13030055.