

1 **Caregivers' Perceptions of COVID-19 Educational Disruptions on Children with**
2 **Developmental Language Disorder and Typically Developing Peers**

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19 **Conflict of Interest**

20 There are no relevant conflicts of interest.
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Abstract

Purpose: Understanding the experiences of families of children with developmental language disorder (DLD) during COVID-19 educational disruptions is essential for designing responsive supports during pandemic recovery efforts and beyond. This qualitative study describes the experiences of families of first- and second-grade children with DLD during the pandemic as compared to the experiences of families of typically developing (TD) peers.

Method: A conventional content analysis approach was used to analyze caregivers’ written responses to open-ended questions regarding their perceptions of COVID-19 educational disruptions. Responses were analyzed separately by group: caregivers of children with DLD ($n = 23$) and caregivers of TD children ($n = 22$).

Results: Four categories of caregiver responses were generated for each group: impacts on children, remote learning challenges, impacts on caregivers, and protective factors. For both groups, concerns about the child’s well-being and literacy learning were most prevalent and prevailed over concerns about oral language. Most caregivers in each group described negative impacts of educational disruptions on their children. As compared to caregivers of TD children, caregivers of children with DLD reported higher rates of remote learning challenges and more negative impacts on literacy learning, speech and/or language, and education in general. DLD caregivers also shared fewer positive comments and remarks related to protective factors.

Conclusions: Results indicate that families of children with DLD may have experienced more challenges during COVID-19 educational disruptions as compared to families of TD peers. Thus, responsive research and supports for these families is essential.

Key Words

DLD, CAREGIVERS, AND THE COVID-19 PANDEMIC

46 Developmental Language Disorder, COVID-19 Pandemic, Caregivers

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48 **Caregivers' Perceptions of COVID-19 Educational Disruptions on Children with**
49 **Developmental Language Disorder and Typically Developing Peers**

50 Beginning in February 2020, schools worldwide closed to mitigate the spread of COVID-
51 19, impacting more than 1.3 billion students worldwide and 77 million in the United States by
52 the end of the 2019-20 academic year (UNESCO, 2023). The onset of the pandemic caused
53 disruptions for the vast majority of families and led to abrupt, unexpected changes to children's
54 instructional delivery. Formal education for nearly all children either took place remotely, did
55 not take place at all, or was reduced during the second half of the 2019-20 school year. The
56 subsequent 2020-21 school year was marked by either fully remote or hybrid learning for the
57 vast majority of students. These rapid, unexpected changes disrupted typical routines with
58 increased time spent at home (Lee et al., 2021) and a greater reliance on technology for learning
59 and engagement with others.

60 **COVID-19 Educational Disruptions: Impacts on Children**

61 As pandemic recovery efforts continue, growing evidence elucidates significant, negative
62 impacts on children. These include negative impacts on educational achievement in the United
63 States (NAEP, 2022) in both math and reading (Kuhfeld et al., 2022; Kuhfeld & Lewis, 2022).
64 Despite schools being fully reopened for in-person learning for more than a full academic year
65 for most children, reduced achievement has persisted (Lewis & Kuhfeld; 2023). Educational
66 disruptions disproportionately negatively impacted children with pre-existing vulnerabilities such
67 as low socioeconomic status, (Bailey et al., 2021), children in historically marginalized
68 communities (Halloran et al., 2021), and children with intellectual/developmental disabilities
69 (Northrup et al., 2023). Children with academic difficulties, such as in the area of reading,
70 experienced more significant learning loss than typically developing (TD) peers (Fuchs et al.,

71 2023). Further, the pandemic negatively impacted social-emotional well-being for many
72 children, including heightened anxiety and depression (see Panchal et al., 2021 and Samji et al.,
73 2021 for reviews). Children with academic difficulties, such as in the area of reading,
74 experienced more significant learning loss than their TD peers (Fuchs et al., 2023). Further, the
75 pandemic negatively impacted the social-emotional well-being of many children, including
76 heightened anxiety and depression (see Panchal et al., 2021 and Samji et al., 2021 for reviews).

77 **COVID-19 Educational Disruptions: Impacts on Caregivers**

78 In addition to negative impacts on children’s learning, the educational disruptions caused
79 by the COVID-19 pandemic also had adverse effects on caregivers. This included mental health
80 challenges (Babore et al., 2021; Patrick et al., 2020; Russell et al., 2020), loss of childcare
81 (Patrick et al., 2020), the sudden need to balance work responsibilities with supporting their
82 child’s learning (Canales-Romero & Hachfeld, 2022), and heightened concerns about their
83 child’s mental health (Lee et al., 2020). In general, caregivers of school-aged children are
84 thought to have been more impacted by pandemic-related disruptions as compared to the
85 population in general (Thorn & Vincent-Lancrin, 2021). Limited but compelling evidence
86 suggests that families of children with developmental delays and disabilities may have been
87 particularly vulnerable to challenges associated with COVID-19 educational disruptions in terms
88 of mental health and caregiving-related challenges (Dhiman et al., 2020; Meral, 2021; Northrup
89 et al., 2023). One such group of families with potential for considerable vulnerability in the
90 context of the pandemic are families of children with developmental language disorder (DLD).

91 **Developmental Language Disorder: Vulnerable Children and Families**

92 DLD is a common, neurobiological condition that occurs in approximately 10% of
93 children (Norbury et al., 2016) and affects language understanding and/or use (McGregor et al.,

94 2020). DLD is associated with academic challenges (see Ziegenfusz et al., 2022, for a review)
95 and reduced social-emotional well-being (Conti-Ramsden & Botting, 2008). Academically,
96 children with DLD have a heightened risk for literacy difficulty, including both poor
97 comprehension (Catts et al., 2002) and/or comorbid dyslexia (Catts et al., 2005). Unsurprisingly,
98 caregivers of children with DLD are also vulnerable to myriad challenges. This includes
99 heightened stress (Bonifacci et al., 2016), stigmatization (Machery & von Suchodoletz, 2008),
100 and difficulty understanding their child's language difficulty (Ash et al., 2020; Porter et al.,
101 2020). Further, many caregivers are unaware of their child's language difficulty (Chan et al.,
102 2022; Hendricks et al., 2019), and many become aware of the difficulty only when academic and
103 related linguistic demands increase in upper elementary school. This is unsurprising, as DLD is
104 pervasively under-identified, with only approximately 20% identified for school support in the
105 early grades (Hendricks et al., 2019; Tomblin et al., 1997). Even during typical circumstances
106 (e.g., prior to the COVID-19 pandemic), an improved understanding of the specific needs of
107 caregivers of children with DLD was needed to inform policy and practice (Lindsay et al., 2016).
108 In sum, children with DLD and their families experience myriad challenges, situating them at a
109 higher risk for negative impacts of pandemic-era disruptions.

110 Despite well-documented academic and psychosocial challenges for families in general,
111 little is known about the impacts of the COVID-19 pandemic on families of children with DLD.
112 Radville et al. (2023) revealed multiple areas of potential vulnerability for families of children
113 with DLD during school closures. These included less home literacy engagement for families of
114 children with both DLD and word reading difficulty, as well as for families with a caregiver with
115 their own history of language or literacy difficulty. Thus, the most vulnerable families engaged
116 in fewer routines that had the potential to mitigate the detrimental effects of disruptions on

117 language and literacy. This finding highlights the need to understand families' experiences of
118 children with DLD during COVID-19 educational disruptions. This information will identify
119 particular areas where caregiver and child support are needed in response to the residual impacts
120 of these disruptions. Specifically, understanding families' experiences can inform speech-
121 language pathologists' (SLPs') clinical decisions in terms of assessment and service provision
122 during pandemic recovery.

123 **DLD Longitudinal Study**

124 The current study focused on a subset of caregivers of children enrolled in a larger,
125 longitudinal study of word learning in children with DLD. The larger study examines predictors
126 of word learning and reading in children with DLD over time. To that end, children with DLD
127 and TD peers are enrolled in a kindergarten through second-grade study. During each study year,
128 children participate in normed measures of language and literacy and experimental measures
129 assessing word learning under multiple conditions. Study procedures also include yearly
130 collection of family and household contextual information through caregiver responses to an
131 annual survey.

132 **Purpose**

133 The purpose of the current qualitative study was to examine open-ended responses from
134 questionnaire data gathered from caregivers of children with DLD and TD children in the
135 longitudinal study to assess their perceptions of COVID-19 educational disruptions. We sought
136 to address two research questions:

137 *RQ1*: What were caregivers of children with DLD and of TD children's perceptions of the
138 impacts of COVID-19 educational disruptions?

139 *RQ2*: How do the perceptions of caregivers of children with DLD compare to those of TD
140 children?

141 **Method**

142 **Design**

143 In this section, we provide a brief overview of the larger longitudinal study followed by a
144 description of the caregivers who completed the questionnaire analyzed for the current study and
145 an explanation of our qualitative methodology. The Standards for Reporting Qualitative
146 Research (SRQR) (O'Brien et al., 2014) were used to guide the development of this manuscript.

147 **The Longitudinal Study**

148 Children in the larger, longitudinal study were recruited from urban school districts in the
149 northwestern and northeastern United States. While approximately 10% of children have DLD
150 (Tomblin et al., 1997), it is persistently under-identified at approximately 20% (Hendricks et al.,
151 2019; Tomblin et al., 1997). To ensure that all children with language difficulty were identified,
152 we established full-class screening procedures (Komesidou et al., 2022). Screening was part of
153 the typical school day in collaboration with partner school districts. Following screening, consent
154 materials were shared via the schools with families of children who demonstrated risk for
155 language difficulty. Thus, we recruited a sample where language difficulty was overrepresented.
156 This allowed for recruitment of adequate numbers of children with DLD and for balanced groups
157 in terms of a number of children with and without DLD. Related, the TD group included children
158 who failed the language screener for unknown reasons, but did not have oral language difficulty
159 as per standardized assessments. Each child was monolingual, as determined by information on
160 language background provided by the school districts and clarified by families through initial
161 intake forms. Children were recruited during kindergarten, and did not have any diagnoses

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162 associated with cognitive difficulty. Asian and Black children were underrepresented in the
163 sample, but representation of Hispanic/Latino children was generally commensurate with
164 expectations based on where participants lived (Massachusetts and Montana United States
165 Census Bureau, 2024). Massachusetts General Brigham and University of Montana Institutional
166 Review Boards (IRBs) approved all study procedures. Families signed IRB-approved consent
167 forms to participate. All children participated in standardized oral language, word reading, and
168 nonverbal intelligence assessments to determine study eligibility and group assignment. These
169 assessments took place at the time of study enrollment. For second-grade children, the
170 assessments took place in person shortly before the onset of the COVID-19 pandemic (January
171 and February 2020). For first grade children, the assessments were conducted via Zoom due to
172 school closures. Trained research assistants, including speech-language pathology graduate
173 students and doctoral students, administered and scored the assessments. **Research assistants**
174 **participated in direct training in procedures for administering standardized assessments with**
175 **senior study staff. Standardized assessments were first- and second-scored to ensure accuracy.**
176 **Disagreements between first- and second-scorers were resolved by conferring with senior study**
177 **staff.** The Clinical Evaluation of Language Fundamentals- Fifth Edition (Wiig, Semel, & Secord,
178 2013) Core Language Score was used to determine study eligibility and group assignment.
179 Children in the DLD group had standard scores at or below 85, a cut point that provided
180 sensitivity and specificity above .8, per the manual. Children in the TD group had standard
181 scores between 96 and 116. Inclusion of upper bounds intentionally included children with
182 average language skills, but not high performers. All participants, regardless of study group, had
183 nonverbal intelligence scores (Primary Test of Nonverbal Intelligence; Ehrlert & McGhee, 2008)
184 at or above a standard score of 75. This cut point aligns with Norbury et al.'s (2016) findings that

185 excluding children with DLD and lower nonverbal intelligence reduces ecological validity.
186 Lastly, we used the Woodcock Johnson IV Test of Achievement (Schrank et al., 2014) Letter-
187 Word Identification subtest to measure letter identification and word reading ability. Children in
188 the DLD group were included in the study regardless of their word reading scores. Conversely,
189 children in the TD group had standard scores at or above 96 and below 116 to exclude both low
190 and high performers, consistent with prior research (Catts et al., 2006). Children were not
191 excluded from the TD group on the basis of receiving special education services, for example, to
192 address speech sound production or attentional difficulties. Table 1 displays means, standard
193 deviations, and statistical significance for language, nonverbal intelligence, and word reading by
194 group.

195 **Participants**

196 All caregivers of children currently enrolled in the larger, longitudinal study were invited
197 to complete the Caregiver Questionnaire (described in detail below). At the time of this smaller
198 study, that included 118 caregivers, 61 (51.69%) of whom had a child assigned to the DLD
199 group and 57 (48.31%) of whom had a child assigned to the TD group. Dissemination of an
200 annual Caregiver Questionnaire to each enrolled participant's family was part of routine study
201 procedures approved by the IRB at the outset of the study. Thus, caregivers did not need to
202 complete an additional consent form to complete the Caregiver Questionnaire examined in this
203 qualitative study. The questionnaire was distributed in October of 2021, shortly after full, in-
204 person learning had resumed for each school at which study participants were enrolled at the
205 time of recruitment. A total of 45 caregivers responded (36.59% response rate) to the
206 questionnaire: 35 responded electronically using REDCap electronic data capture tools (Harris et
207 al., 2009) hosted by Mass General Brigham, seven completed the questionnaire via a mailed

208 paper form (hand-written), and three completed it via a telephone conversation with a researcher.
209 Participants received an initial electronic invitation to complete the questionnaire and three email
210 reminders if needed. Paper copies were mailed to families without access to email or valid email
211 addresses and to families who did not respond to any email invitations to complete the
212 questionnaire. There were no cases of uninterpretable responses for the seven hand-written
213 responses (mailed, paper forms) due to reduced legibility. While the option was provided to all
214 participants, only three caregivers requested to complete the survey via telephone. For those
215 participants, the researchers did not ask follow-up or clarification questions and recorded
216 responses verbatim to avoid inconsistencies between data collection modalities and mitigate
217 limitations related to using these three modalities. Responses to open-ended questions gathered
218 by phone were transcribed verbatim into REDCap by a trained research assistant. Responses
219 were received between 10/22/2021 and 1/15/22.

220 Of the 45 caregivers who responded to the questionnaire, 23 had a child who was
221 assigned to the DLD group₂ and 22 had a child who was considered a TD peer for the purposes
222 of the larger study. The DLD group included six girls (26.09%) and 17 boys (73.91%)₂ and the
223 TD group included 12 girls (54.55%) and 10 boys (45.45%). The mean age was 7.35 years ($SD =$
224 0.50) for the DLD group and 7.24 years ($SD = 0.54$) for the TD group. Nine children (39.13%) in
225 the DLD group were in first grade at the time of this study, and 14 (60.87%) were in second
226 grade. Nine children in the TD group were in first grade (40.91%), and 13 were in second grade
227 (59.09%). Caregivers included primarily mothers (32, 71.11%), six fathers (13.33%), two foster
228 parents (4.44%), three grandmothers (6.67%) and two primary caregivers (4.44%) who did not
229 share their relationship with the child. Additional educational and demographic information is
230 reported in Table 2.

231 *The Caregiver Questionnaire*

232 The Caregiver Questionnaire was designed to be distributed either electronically via
233 REDCap or by mail to families of all enrolled participants during each year of the larger,
234 longitudinal study. During each year of the larger study, the Caregiver Questionnaire included
235 questions pertaining to demographic information (five questions), home literacy practices (27
236 questions, Newman, 2019; Radville et al., 2023), the household environment (15 questions) as
237 measured by the Chaos, Hubbub, and Order scale (Matheny et al., 1995), other household
238 routines including sleep patterns and music exposure (18 questions), and the child's
239 developmental and family history (15 questions). Developmental and family history questions
240 focused on the child's history of special education supports, related diagnoses, and family history
241 of language and literacy difficulty. The full questionnaire continues to be used in an ongoing
242 manner to collect data from families of children with DLD and TD peers. For the current study,
243 the first author (speech-language pathologist, literacy specialist, and doctoral candidate) and
244 senior author (project principal investigator and speech-language pathology faculty member)
245 added seven open-ended questions to the questionnaire for qualitative analysis focused on
246 caregivers' perceptions of the COVID-19 pandemic on their child, with a focus on language and
247 literacy learning. Readability was considered to maximize accessibility to the participants
248 (Dillman et al., 2014), with consideration of average United States adult literacy rates (National
249 Center for Educational Statistics, 2024). Key terminology was briefly defined within the
250 questions using accessible vocabulary. Specifically, examples of language (e.g., learning new
251 words, following spoken directions) and literacy (e.g., reading, spelling) skills were provided and
252 care taken to avoid clinical jargon. **For this study, only data gathered from the following sections**
253 **were analyzed: demographic information, developmental and family history, and COVID-19**

254 related open-ended questions. Responses to questions pertaining to other topics (home literacy,
255 household environment, and other household routines) were not analyzed as part of this study.

256 The open-ended questions are provided in Table 3.

257 **Data Analysis**

258 The researchers used the conventional content analysis approach (Hsieh & Shannon,
259 2005) to analyze responses to the seven open-ended questions on the Caregiver Questionnaire.
260 This allowed for the examination of caregivers' experiences without prescribing assumptions or
261 preconceived conclusions about responses. While information could be gathered using
262 quantitative measures such as rating scales, it is unlikely that existing measures would
263 adequately describe caregivers' experiences during the highly unusual circumstances of the
264 pandemic. As such, our methods allowed for caregivers' exact words to drive our analysis. The
265 first and third authors (both doctoral researchers and speech-language pathologists) engaged in
266 emergent consensus coding (Creswell & Clark, 2017) using NVivo 12 software (Lumivero,
267 2017). The coding included two, licensed speech-language pathologists with extensive
268 experience (15 years and eight years) working with children with language disorders and their
269 families. This coding process but did not any research assistants or other study staff. Positionality
270 statements for each coder are included in the Appendix.

271 The following steps of the conventional content analysis approach (Hsieh & Shannon,
272 2005) were completed separately by group to analyze caregiver responses and to allow for
273 between-group comparisons (see Figure 1). We coded DLD caregivers' responses first, followed
274 by TD caregivers' responses. During initial coding, the coders participated in repeated readings
275 of each caregiver's response independently and identified key words and phrases related to the
276 research questions to generate initial codes (Figure 1, Step 1). Then, the coders met to establish

277 consensus on their initial codes based on caregivers' exact words in each response, applying
278 multiple codes as appropriate (Figure 1, Step 2). Coders then created a codebook consisting of
279 their consensus codes and definitions. Next, coders engaged in axial coding (the process where
280 data are sorted, synthesized, and organized) to refine, collapse, and consolidate consensus codes
281 and their definitions into subcategories (Charmaz, 2014) (Figure 1, Step 3). Lastly, subcategories
282 of codes were collapsed into categories (Figure 1, Step 4).

283 Multiple methods were used to establish the rigor and trustworthiness of the findings that
284 have been used in other qualitative studies (e.g., Pfeiffer et al., 2023; Quinn et al., 2023). First,
285 the credibility of the categories was assessed to ensure that supporting evidence of the results
286 was evident to accurately represent the caregivers' perceptions (Johnson et al., 2020). This was
287 done through a peer debriefing process (Creswell & Plano Clark, 2017), which consisted of
288 discussions of the coding process with a researcher with extensive experience in qualitative
289 analysis and working with children and families (the second author) and a review of the coding
290 for any inconsistencies. Additional methods were used to ensure rigor and trustworthiness of the
291 results, that is, to provide sufficient detail of the analysis for the reader to assess: (a) if
292 participant voices guided the analysis process rather than researcher biases, (b) if the analysis
293 process could be replicated, and (c) to determine the applicability of the findings to other
294 contexts (Johnson et al., 2020). These included: the use of multiple coders, rich descriptions
295 providing contextual information (Merriam & Tisdell, 2016), detailed report of the research
296 method, presenting disconfirming evidence in the data (i.e., information that challenges our
297 analysis; noted below in Category 2 in caregivers' positive comments about remote learning),
298 use of an audit trail to keep detailed notes about the study methods, procedures, and decisions

299 (Merriam & Tisdell, 2016), and utilizing NVivo 12 computer software (Lumivero, 2017) during
300 the analysis process (Johnson et al., 2020).

301 **Results**

302 A total of 13 subcategories were generated during the analysis process. Those
303 subcategories were combined and condensed into four overall categories. The subcategories and
304 categories were all present in both groups' responses. Categories are described below in order of
305 frequency of caregiver reports (most to least frequent) across caregiver groups combined. The
306 categories and subcategories are presented in Table 4 and each group's subcategory frequencies
307 (in percentages) are presented in Figure 2. Exemplar quotes illustrating responses from each
308 group for each category were chosen by both coders and systematically selected from a range of
309 participants to amplify a variety of caregiver voices and reflect a diversity of caregiver
310 experiences. For the purposes of succinctly reporting these findings, we refer to caregivers of
311 children in the DLD group as 'DLD caregivers' and to caregivers of TD peers as 'TD
312 caregivers.'

313 **Category 1-Impacts on Children: 96.36% of Caregivers**

314 This first category captured caregivers' perceptions of the impacts of COVID-19
315 educational disruptions on their children. Caregivers' responses in both groups included the same
316 seven subcategories: a) *child language not affected*, b) *child literacy not affected*, c) *negative*
317 *impact on child well-being*, d) *negative impact on literacy*, e) *negative impact on speech or*
318 *language*, f) *negative impact on education*, and g) *positive impact on the child*. Table 5 presents
319 counts, percentages, and example quotes for each subcategory within the impacts on children
320 category. Overall, more DLD caregivers described negative impacts on literacy (69.57% as
321 compared to 40.91% of TD caregivers), speech and/or language (30.43% as compared to 4.55%

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322 of TD caregivers), and on the child's education in general (34.78% as compared to 18.18% of
323 TD caregivers). This category included both positive and negative impacts as well as direct
324 statements of a lack of impact on language, literacy, and/or the child's education more broadly.
325 A majority of DLD caregivers (86.96%) reported at least one negative impact on the child. Only
326 one DLD caregiver (4.35%) reported neither positive nor negative impacts on the child, and only
327 three (13.04%) reported a positive impact on the child. Similarly, a majority of TD caregivers
328 (77.27%) reported at least one negative impact on the child, but more (27.27%) reported no
329 impacts or only positive impacts on the child as compared to DLD caregivers. Less DLD
330 caregivers directly reported that their child's language and literacy skills were not affected
331 (43.38% DLD caregivers, 63.64% TD caregivers; 8.70% DLD caregivers, 40.91% TD
332 caregivers, respectively). Fewer DLD caregivers (56.52%) as compared to 68.18% of TD
333 caregivers shared concerns regarding negative impacts on the child's well-being. Lastly,
334 approximately half as many DLD caregivers (13.04%) as TD caregivers (22.73%) reported
335 positive effects of educational disruptions on their child.

336 **Category 2-Remote Learning Challenges: 70.91% of Caregivers**

337 The second category captured caregivers' descriptions of challenges associated with
338 remote learning, either related to the child or the caregiver. Caregivers' responses in both groups
339 mentioned the same two subcategories: a) *remote learning challenges, children* and b) *remote*
340 *learning challenges, caregivers*. A majority of caregivers in each group (74.13% of DLD
341 caregivers and 54.55% of TD caregivers) described remote learning challenges.

342 ***Remote Learning Challenges, Children***

343 Remote learning challenges related to the child were more prevalent for DLD caregivers
344 (78.26%) as compared to the TD caregivers (36.36%). For both groups, this subcategory

345 included multiple reports of children's dislike of remote learning. For example, Participant 22
346 DLD shared that their child “did not like remote learning and refused to participate”, and
347 Participant 9 TD reported their child “did not learn much during remote learning. She did not
348 like Zoom calls.” Caregivers in both groups also shared specific challenges their children faced
349 when learning from home. For example, Participant 12 DLD reported, “The sounds on the
350 computer were hard to hear. It was hard to see what the teacher was writing. Too much
351 feedback,” and Participant 8 TD reported, “Remote learning and frequent absences due to
352 quarantine orders have led to a lack of consistency in my child's learning experience.” DLD
353 caregivers also described general dissatisfaction with remote learning and a strong preference for
354 in-person education. Participant 9 DLD reported, “[My child] definitely benefits from a
355 structured environment like school where they have a daily routine. During the pandemic and
356 remote learning process, she seemed lost without all of that.” Participant 16 DLD reported,
357 “Remote learning made the idea of school a challenge. [My child] thrives in an in-person
358 environment.” No DLD caregivers shared positive comments related to remote learning.

359 ***Remote Learning Challenges, Caregivers***

360 Caregivers in both groups reported their own remote learning challenges at similar rates:
361 30.43% of DLD caregivers and 27.27% of TD caregivers. Several caregivers in each group
362 described challenges related to supporting their child. This included structural challenges such as
363 time constraints and competing household demands. For example, Participant 15 DLD reported,
364 “I had difficulties working at home while also caring for my 2-year-old and also making sure
365 [she] was engaged in remote learning and often helping her complete school work. It took its toll
366 on all of us.” Similarly, Participant 4 TD described, “Having to help with [my child’s] online
367 learning was difficult, feeling the pressure of making sure she was learning was hard.” Two TD

368 caregivers additionally described concerns regarding their lack of adequate knowledge to support
369 learning: “I had a hard time because I wasn't sure where she should be academically so I didn't
370 know if I was pushing too hard or not enough” (Participant 20 TD) and “I'm not a teacher. I'm a
371 parent, I have great respect for teachers” (Participant 21 TD). However, two caregivers of TD
372 peers shared positive impressions of remote learning: “She did very well with the online
373 academy” (Participant 4 TD) and “My child did really well during remote learning. No concerns
374 [about] her” (Participant 16 TD).

375 **Category 3-Impacts on Caregivers: 40.00% of Caregivers**

376 The third category captured caregivers' perceptions of the impacts of COVID-19
377 educational disruptions on themselves. For both groups, the *impacts on caregivers* category
378 encompassed two subcategories: a) *caregiver learning* and b) *negative impact on caregiver well-*
379 *being*. This category captured the responses of 39.13% of DLD caregivers and 59.09% of TD
380 caregivers.

381 ***Caregiver Learning***

382 A total of 26.09% of DLD caregivers described learning something about their child's
383 skills, educational needs, or instruction during the COVID-19 pandemic as compared to 50% of
384 TD caregivers. Two DLD caregivers reported learning about supports that their child was
385 receiving. For example, Participant 7 DLD shared that, “Having him at home helped us
386 understand the Wilson [Reading System] approach and was able to reinforce the same language
387 the teachers used” and Participant 2 DLD reported having “more intimate knowledge of what is
388 expected by the SLP teacher.” Both DLD and TD caregivers shared examples of learning about
389 areas in which their child was having difficulty. For example, Participant 17 DLD reported that,
390 “I can see where he has more issues with some sounds he can't say” and Participant 15 DLD

391 described being “more familiar with her struggles in writing.” Participant 14 TD described
392 learning that their child “doesn’t like using sounds to figure out words” and Participant 10 TD
393 shared that they learned about their child’s “difficulty remembering to wait until someone is
394 finished speaking before he says something.” Unlike the DLD caregivers, eight TD caregivers
395 shared directly positive experiences related to learning about their child. For example, Participant
396 17 TD shared, “I have been able to be more a part of getting to know my child. We, together,
397 look and learn and discover new books.” Similarly, Participant 6 TD explained, “Remote lessons
398 gave us a more active role and better opportunity to observe his development than we might have
399 had otherwise. It has been fun to watch him progress to reading full chapter books on his own.”

400 *Negative Impact on Caregiver Well-Being*

401 DLD caregivers reported similar rates of negative impacts on their own well-being
402 (17.39%) as compared to TD caregivers (18.18%). For both groups, this included descriptions of
403 heightened stress and mental health challenges. For example, Participant 13 DLD shared, “All of
404 it was stressful,” and Participant 9 DLD described, “It was challenging to have to stay away from
405 people and family. I also suffered some depression throughout the pandemic, even more so
406 seeing my daughter struggle and not being able to do anything about it.” Participant 10 TD
407 reported, “Both parents had additional stresses during the pandemic due to increased workload,
408 staffing shortages, quarantining, (and) remote work.” Participant 6 TD echoed reports of
409 increased stress, stating, “Cabin fever and ongoing general, societal stress have been
410 unavoidable.”

411 **Category 4-Protective Factors: 33.33% of Caregivers**

412 The last category captured caregivers’ descriptions of structures or supports that they
413 perceived as helpful in mitigating the negative impacts of educational disruptions on the child.

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414 For both groups, it encompassed two subcategories: a) *environment level protective factors*
415 (familial, community, or school-based supports that mitigated negative impacts) and b) *child*
416 *level protective factors* (a child’s characteristics or behaviors that supported their success during
417 disruptions, or descriptions of child resilience during challenging circumstances). This category
418 captured the responses of 17.39% of DLD caregivers and 50.00% of TD caregivers.

419 ***Environmental Level Protective Factors***

420 Descriptions of environment level protective factors were less frequent for DLD
421 caregivers (17.39%) as compared to TD caregivers (40.91%). Environment level protective
422 factors were external supports children received, which reportedly mitigated negative impacts
423 during disruptions. Participant 7 DLD described familial factors that supported the child, “We
424 were able to help more and be more attentive to his needs at home,” and Participant 6 TD
425 described both familial and school-based protective factors: “The experience has been atypical,
426 since he has never had a ‘regular’ school year, but his education is progressing well thanks to
427 creative teachers and our parental involvement.”

428 ***Child Level Protective Factors***

429 DLD caregivers also shared fewer comments related to the child level protective factors
430 (13.04%) as compared to TD caregivers (36.36%). Caregivers in the DLD group who reported
431 child level protective factors shared this information in the context of the child struggling during
432 remote learning but demonstrating improvements once back in school. This category included
433 caregiver reports of children’s internal characteristics which mitigated negative impacts during
434 educational disruptions, such as child resilience which allowed some children to demonstrate
435 academic successes upon their return to in-person schooling. For example, Participant 9 DLD
436 explained that, “My daughter could not read much while experiencing remote learning. Now that

437 she is back in school, she is actually reading not just sight words but other words I didn't think
438 she could read." Similarly, Participant 12 DLD shared that "[His] speech has improved since
439 being back in the school building." However, TD caregivers who described child level protective
440 factors referred to specific strengths. This included academic strengths or aspects of the child's
441 personality that the caregiver referred to as mitigating negative aspects of disruptions or being
442 helpful during disruptions. For example, Participant 22 TD shared, "Surprisingly he has been
443 able to thrive still. He is a great reader and very smart" and Participant 6 TD reported, "He has
444 an understanding of the situation and has adapted well."

445 **Discussion**

446 This study describes caregivers' perceptions of COVID-19 educational disruptions for
447 children with DLD and their TD peers. Four categories were generated from caregivers'
448 responses using a conventional content analysis approach: impacts on children, remote learning
449 challenges, impacts on caregivers, and protective factors. Caregivers of children with DLD
450 highlighted several areas of vulnerability for their families, including high rates of remote
451 learning challenges and negative impacts on their children's literacy, speech and/or language,
452 and education in general. DLD caregivers reported fewer protective factors, both at the
453 environment and child levels. Overall, caregivers in each group expressed more concerns about
454 their child's literacy skills and well-being as compared to their oral language skills.

455 **Vulnerabilities Associated with DLD and Educational Disruptions**

456 DLD caregiver responses highlighted several areas of vulnerability. This included higher
457 rates of remote learning challenges for children as compared to TD caregivers, few concerns
458 related to oral language, and fewer comments related to child resilience and protective factors as
459 compared to TD caregivers. High rates of child difficulty with remote learning for children with

460 DLD are not surprising in light of disproportionate impacts of disruptions on children with
461 learning disabilities (Fuchs et al., 2023) and intellectual/developmental disabilities (Northrup et
462 al., 2023). Both literacy (Catts et al., 2002; Catts et al., 2006) and general academic difficulty
463 (Ziegenfusz et al., 2022) likely exacerbated challenges associated with this novel, largely
464 unfamiliar modality for schooling. Concerns regarding literacy were more prevalent amongst
465 DLD caregivers. The higher prevalence of literacy concerns in responses of DLD caregivers was
466 expected, given that children with DLD are at heightened risk for literacy difficulty (Catts et al.,
467 2002; Catts et al., 2006).

468 Compared to TD caregivers, DLD caregivers reported lower rates of environment level
469 protective factors and child-level, protective factors. Taken together, these findings indicate that
470 families of children with DLD may have experienced more challenges during educational
471 disruptions despite being faced with generally similar circumstances (e.g., comparable durations
472 for school closures and remote learning). Alternatively, families of TD children may have had
473 similarly challenging experiences but were more able to compensate due to a lower
474 preponderance of education-related difficulties. This is unsurprising given that numerous
475 challenges are associated with raising a child with DLD: reduced social-emotional well-being
476 (Bonifacci et al., 2016), stigma (Machery & von Suchodoletz, 2008), and difficulty understand
477 the child's language difficulty and diagnosis (Ash et al., 2020). Further, children with DLD
478 experiences many challenges associated with schooling (Catts et al., 2002; Catts et al., 2006;
479 Ziegenfusz et al., 2022). Further, it aligns with the available evidence related to disproportionate
480 impacts of educational disruptions on families of young children in general (Thorn, W. &
481 Vincent-Lancrin, S., 2021) and more specifically, on children with developmental delays and
482 disabilities (Dhiman et al., 2020; Meral, 2021; Northrup et al. 2023).

483 **Shared Experiences Across Groups**484 *Concerns About Social-Emotional Well-Being and Literacy*

485 We defined shared experiences as subcategories reported by both DLD and TD
486 caregivers. Caregivers of children in both groups reported all but one of the same 13
487 subcategories. The majority of caregivers, regardless of group, described the negative impacts of
488 educational disruptions on their child. Child well-being and literacy learning were the most
489 prevalent areas of concern for both groups. Concerns regarding child well-being align with
490 mounting evidence that educational disruptions negatively impact child social-emotional well-
491 being (Panchal et al., 2021; Samji et al., 2021). Likewise, concerns about literacy learning were
492 expected given that the children in this study were at critical grades for literacy learning during
493 the most disrupted academic years. Difficulty with early literacy skills, such as decoding short
494 words, may have been relatively easy for caregivers to observe during remote learning. Further,
495 high levels of awareness of literacy in general may be expected due to increased advocacy,
496 media coverage, and public interest related to reading in recent years (Goldstein, 2022; Hanford,
497 2023). Taken together, these findings suggest that caregivers of young children may be most
498 interested in and, in-turn, potentially most likely to seek out supports related to children's social-
499 emotional well-being and literacy learning as pandemic recovery efforts continue.

500 Caregivers in both groups also described negative impacts on their own well-being. This
501 is consistent with prior findings associating increased mental health challenges with caregiving
502 during the pandemic (Babore et al., 2021; Patrick et al., 2020; Russell et al., 2020). Also
503 consistent with prior findings, caregivers in this study experienced challenges supporting the
504 child's education and balancing competing responsibilities while at home (Canales-Romero &
505 Hachfeld, 2022). Taken together, this provides impetus for considering both child and caregiver

506 social-emotional well-being in the design of responsive supports as COVID-19 recovery efforts
507 continues.

508 ***Few Concerns About Oral Language***

509 Few caregivers expressed concerns about oral language, regardless of group. Many DLD
510 caregivers were likely unaware of their child’s language difficulty, consistent with prior findings
511 (Chan et al., 2022; Hendricks et al., 2019). This could be the case for several reasons. Only
512 approximately half of the children in the DLD group were receiving special education services at
513 the time of this study. Thus, it is unlikely that many of the children in the DLD group had been
514 identified by their schools as having difficulty with oral language. This would be consistent with
515 pervasively low identification rates for DLD (Hendricks et al., 2019; Tomblin et al., 1997).
516 Further, children were recruited for the larger study through the use of a screening measure in
517 their schools, not because they had been identified by a caregiver as having language difficulty.
518 Further, oral language difficulty is often less easily observable as compared to other difficulties
519 (such as difficulty with early reading skills). Lastly, even if caregivers were aware of their
520 child’s language difficulties, they may not have understood the nature of the child’s disorder
521 (Ash et al., 2020) or had enough specific, related knowledge or familiarity with related
522 terminology to comment. This highlights both the need for ongoing efforts to raise awareness of
523 DLD, as well as the need for universal, school-based screening efforts for identifying children
524 with language difficulty.

525 **Clinical Implications for School-Based Speech-Language Pathologists**

526 Consistent with previous findings (Canales-Romero & Hachfeld, 2022; Patrick et al.,
527 2020; Thorn & Vincent-Lancrin, 2021), this study suggests that educational disruptions were
528 challenging for caregivers of young children, regardless of the presence of language difficulty.

529 This included concerns about child social-emotional well-being, which are unsurprising in light
530 of heightened anxiety and depression in children during the COVID-19 pandemic (Panchal et al.,
531 2021; Samji et al., 2021). Likewise, high levels of concern regarding literacy learning align with
532 known, negative impacts of the pandemic on reading achievement in the United States (NAEP,
533 2022; Kuhfeld & Lewis, 2022). These findings have clear, practical implications for school-
534 based SLPs.

535 During pandemic recovery efforts, we call SLPs to consider not only children with
536 DLD's language and literacy needs when planning assessment and intervention but also their
537 social-emotional well-being and their families' related needs. While the acute phase of the
538 pandemic has concluded, the impacts on familial well-being may persist and merit thoughtful
539 consideration. Further, the current study highlights key areas of potential vulnerability for
540 families of children with DLD: supporting children's academic performance, literacy learning,
541 and limited awareness of children's oral language challenges. This provides a strong impetus for
542 increased efforts toward supporting families of children with DLD during pandemic recovery
543 efforts and beyond. For school-based SLPs, this can include ensuring that recommended home
544 carryover is feasible, accessible, and realistic. In contrast with high levels of other concerns, few
545 DLD caregivers reported concerns about oral language. On the one hand, caregivers may have
546 been aware of their child's difficulty but not concerned. Or, they may not have felt that
547 disruptions impacted language learning. Alternatively, caregivers may be unaware of their
548 child's oral language difficulties. This would be consistent with prior studies (Chan et al., 2022;
549 Hendricks et al., 2019), and it highlights a pressing need for improved caregiver education about
550 DLD and the importance of oral language. Here, school-based SLPs can play a powerful role in
551 supporting caregiver learning, both about DLD and oral language in general, and about the

552 specific nature of the child’s strengths and challenges. This clear, explicit information is critical
553 for caregiver empowerment.

554 However, the SLP role in sharing information about oral language and DLD is not
555 limited to caregiver education. SLPs must share their expertise with educators, other specialists,
556 and administrators to maximize awareness, collaboration, and advocacy for children with DLD.
557 This can include directly sharing information about DLD, and collaborating on interprofessional
558 teams to support children’s literacy learning and ability to access the curriculum. SLPs can
559 consider using both direct and indirect service delivery models to address these skills (ASHA,
560 2016). Using the indirect service delivery model, SLPs can educate teachers about strategies they
561 can use to provide extra support for children with DLD in the classroom during their instruction.
562 Using direct service delivery models, SLPs can provide either pull-out or classroom-based
563 therapy. Using the pull-out model, SLPs’ instruction can include pre-teaching concepts or skills
564 needed to participate in classroom lessons or activities as well as additional practice
565 opportunities for skills needed to access the general education curriculum. SLPs can also choose
566 to provide classroom-based therapy, working alongside teachers to support children’s language
567 and literacy skills in the least restrictive environment and fostering generalization of skills from
568 the speech-language therapy room to the classroom.

569 Lastly, improved early screening for DLD is much needed. Since caregivers of children
570 with DLD demonstrated low levels of concern for their child’s oral language skills, relying
571 exclusively on caregivers to identify language difficulty is an inadequate solution for identifying
572 children with DLD. School-based SLPs play a key role in advocating for and supporting
573 screening for DLD. SLPs should use screening tools with high classification accuracy to ensure

574 children with DLD are identified as early as possible so they can begin receiving intervention
575 services (Bao et al., 2024).

576 **Limitations and Future Directions**

577 Data were collected using open-ended questions, largely via written responses. Providing
578 written responses could be challenging for some caregivers and may have yielded a lower
579 volume of information per participant as compared to other data collection methods such as
580 interviews. Because DLD is a heritable condition (Barry et al., 2006), caregivers of children
581 with DLD may have had similar challenges, including with writing. Also, we did not request a
582 specific length of caregivers' responses which yielded responses of varying lengths and levels of
583 detail. It is possible that some caregivers had additional experiences but did not report them in
584 their responses. In addition, some responses were vague and/or incomplete thoughts that the
585 researchers did not assign codes to due to a risk of misinterpretation. Since the data were
586 collected via surveys that the caregivers completed on their own time, the researchers could not
587 probe the participants for additional information to clarify these responses for coding purposes.
588 However, using a written response approach had clear benefits in that it allowed us to gather
589 information from caregivers whose children were enrolled in a larger study and, therefore, had
590 other detailed demographic and assessment data. It also allowed for a feasible approach to data
591 collection during pandemic-era disruptions and related challenges. Despite these benefits, there
592 are limitations to the generalizability of our results. First, the study included a small number of
593 caregivers of early-elementary children in two states. Therefore, we cannot extend conclusions to
594 families of older children or children in all areas of the United States, and this would be a useful
595 area of focus for future studies. Further, many caregivers invited to complete the survey did not
596 do so (64.41%). Thus, it is possible that the caregivers who participated were not fully

597 representative of the larger study or general population. For example, caregivers who were
598 experiencing particularly high levels of stress or who had fewer resources may have been less
599 likely to respond, as well as those experiencing acute, less manageable difficulties. Caregivers
600 with language and literacy difficulty may have provided not only briefer responses, but also may
601 have been less likely to respond due to the demands of the task. Future work with families of
602 children with DLD must certainly take measures to address these barriers to participation and
603 generalizability. Lastly, we used full-class screening to recruit a sample where language
604 difficulty was overrepresented. Although this had benefits in terms of ecological validity,
605 identifying children with DLD, and allowing for similarly-sized DLD and TD groups, children in
606 the TD group may have had some degree of neurodiversity in other ways despite having typical
607 oral language abilities. Therefore, future studies could certainly recruit TD peers without history
608 of difficulty in any area.

609 Despite limitations, this study has notable strengths. First, it fills a gap in the literature by
610 documenting the experiences of families of children with DLD during COVID-19 educational
611 disruptions. Using an inductive approach to content analysis allowed for the authentic capture
612 and sharing of the lived experiences of a vulnerable population of families. Further, by including
613 both families of children with and without DLD, we could make direct comparisons, providing
614 detailed information about the similarities and differences in families' lived experiences, as
615 described in their own words. Additionally, we took several provisions to maximize the
616 credibility and trustworthiness of our qualitative analysis process. This included the use of two
617 independent coders, peer debriefing, a detailed audit trail, and NVivo 12 Qualitative Analysis
618 Software (Lumivero, 2017).

619 In this study, we describe caregiver perceptions and general differences between groups
620 using qualitative methods. A mixed methods study with a larger sample of caregivers of children
621 with DLD is a clear direction for extension of this work. This should include understanding of
622 the experiences of caregivers with DLD, including awareness of language difficulty and learning
623 needs. Work is needed to increase awareness of DLD, including effective methods for educating
624 caregivers. Additionally, similar studies may examine caregiver perceptions of language and
625 literacy learning beyond the context of the COVID-19 pandemic. This will inform clinical
626 practice as well as help tailor supports that consider both the children's and families' needs.

627
628

Conclusion

629 In summary, concerns regarding social-emotional well-being and literacy learning were
630 common amongst caregivers in both groups. DLD caregivers reported higher rates of concern in
631 nearly all areas, but reported protective factors at lower rates. These findings indicate that
632 families of children with DLD may have been particularly vulnerable to the impacts of
633 educational disruptions. This work has key implications for supporting families of children with
634 DLD, including designing responsive supports during ongoing pandemic recovery, increasing
635 awareness of DLD, and continuing to focus research efforts on families of children with DLD.

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Data Availability Statement

647 The data that support the findings of this study are available from the corresponding author upon
648 reasonable request.

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827 **Table 1**

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829 Descriptive statistics for oral language, word reading, and nonverbal cognition by group.

	DLD <i>n</i> = 23	TD <i>n</i> = 22
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)
Oral Language ^a	79.61 (4.83)***	100.83 (10.16)***
Nonverbal Cognition ^b	95.35 (14.87)	105.36 (21.34)
Word Reading ^c	84.11 (12.51)***	99.92 (8.76)***

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831 *Note.* ^aClinical Evaluation of Language Fundamentals: Fifth Edition (Wiig, Semel & Secord,
832 2013), Core Language Composite (Standard Score). ^bPrimary Test of Nonverbal Intelligence
833 (Ehrler & McGhee, 2008), Standard Score. ^cWoodcock Johnson IV, Letter Word Identification
834 Subtest (Schrank, McCrew, Mather & Woodcock, 2014), Standard Score. ***Denotes
835 statistically significant difference, $p < .0001$.

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837 **Table 2**

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839 Educational and demographic information by group.

840

	DLD, <i>n</i> = 23		TD, <i>n</i> = 22	
	<i>n</i>	%	<i>n</i>	%
School Modality, 2020-2021 Academic Year				
Remote, Full Year	5	21.74%	7	31.82%
Hybrid, Full Year	5	21.74%	7	31.82%
Remote or Hybrid Until Spring Reopening	9	39.13%	6	27.27%
Other	4	17.39%	2	9.10%
Special Education Services				
Received Services, 2020-21 Academic Year	13	56.52%	3	13.64%
Received Services, 2021-22 Academic Year	12	52.17%	2	9.10%
Child Race				
American Indian/ Alaska Native	1	4.35%	0	0%
Asian	0	0%	0	0%
Black/African American	2	8.70%	1	4.35%
Native Hawaiian/ Pacific Islander	0	0%	0	0%
White	16	69.57%	16	72.73%
Mixed	3	13.04%	4	18.18%
Not Reported	1	4.35%	1	4.55%
Child Ethnicity				
Hispanic/Latino	7	30.43%	3	13.64%
Not Hispanic/Latino	15	65.22%	19	86.36%
Not Reported	1	4.35%	0	0%

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Geographic Location				
Massachusetts	18	78.26%	10	45.45%
Montana	5	21.74%	12	54.55%
Household Income				
Less than \$20,000	3	13.04%	2	9.09%
\$20,000 - \$44,999	9	39.13%	3	13.64%
\$45,000 - \$139,999	8	34.78%	10	45.45%
\$140,000 - \$149,999	1	4.35%	3	13.63%
\$150,000 - \$199,999	1	4.35%	2	9.09%
\$200,000+	1	4.35%	2	9.09%
Primary Caregiver Education Level				
Less than high school	0	0%	0	0%
High School Diploma or GED	3	13.04%	0	0%
Some College	5	21.74%	5	22.73%
Associate's Degree/ Technical Certificate	2	8.70%	3	13.64%
Bachelor's Degree	11	47.83%	7	31.82%
Master's Degree or Higher	2	8.70%	7	31.83%

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Table 3

Open-ended questions.

1. How has the Covid-19 pandemic affected your child's education?
2. How has the Covid-19 pandemic affected your child's language development? Language includes communication skills, speaking, learning new words, following spoken directions, and understanding spoken information.
3. How has the Covid-19 pandemic affected your child's literacy development? Literacy includes learning letter names and sounds, reading, spelling, and writing.
4. How has the Covid-19 pandemic affected your *understanding* of your child's language development? This could include anything you have learned or observed about your child's language (speaking and listening) skills during the pandemic.
5. How has the Covid-19 pandemic affected your understanding of your children's literacy development? This could include anything you have learned or observed about your child's literacy (reading and spelling) skills during the pandemic.
6. Please briefly describe any additional concerns about your child's well-being related to the Covid-19 pandemic. This could include social and emotional health, physical health, development, or anything else you would like to share.
7. Please describe any other challenges you faced as a parent or caregiver during the Covid-19 pandemic. This could include social and emotional health, physical health, or anything else you would like to share.

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848 **Table 4**
 849
 850 Categories and subcategories for both groups.
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Categories	Subcategories
Category 1- Impacts on Children	Child language not affected Child literacy not affected Negative impacts on child well-being Negative impact on literacy Negative impact on speech or language Negative impact on education Positive impact on the child
Category 2- Remote Learning Challenges	Remote learning challenges, children Remote learning challenges, caregivers
Category 3- Impacts on Caregivers	Caregiver learning Negative impact on caregiver well-being
Category 4- Protective Factors	Child level protective factors Environment level protective factors

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 853 **Table 5**
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 855 Counts, percentages, and example quotes by group (DLD, *n* = 23 and TD, *n* = 22) for each of the
 856 seven subcategories within the Impacts on Children category.
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Child language not affected	
DLD, 10 (43.48%)	TD, 14 (63.64%)
“Honestly I don’t think that has been affected. He has been able to communicate with others and listen.” (Participant 4 DLD)	“I wouldn’t say that it hindered it because he did really well in terms of following directions on the teacher on the tablet.” (Participant 21 TD)
“I don’t think it has affected him that way.” (Participant 24 DLD)	“I don’t feel it has affected her language development.” (Participant 18 TD)
Child literacy not affected	
DLD, 2 (8.70%)	TD, 9 (40.91%)
“Not affected. On track.” (Participant 21 DLD)	“It hasn’t. We are fortunate to have many books and prioritize literacy. This combined with excellent teachers has helped him stay on track.” (Participant 6 TD)
“I think since we are very proactive with reading at home- Our child continued to excel in reading skills despite the pandemic.” (Participant 1 DLD)	“My child had lots of practice with this and I don’t see him as being affected by the pandemic in these areas.” (Participant 15 TD)

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Negative impacts on child well-being	
DLD, 13 (56.52%)	TD, 15 (68.18%)
<p>“My daughter seemed depressed, she ate a lot more, gained weight and while she was at the YMCA doing her remote learning she seemed stressed. I believe she would take it out on other kids at times. She stated that she hated math and was no good at. She would cry and say she hated remote learning, she would be stuck doing assignments on Fridays without the teacher and had no idea what she was doing, so she would cry when Friday would come. She missed her friends and teachers and she didn't feel ready to go to the second grade. I hope she never has to go through that again.” (Participant 9 DLD)</p> <p>“Social and emotional health have drastically been affected because they are told they are being "unsafe" to peers when giving them a hug.” (Participant 2 DLD)</p>	<p>“Being in large groups of students is hard for (her), socializing was limited during COVID, so it's tough getting kiddos to focus, not to play with/ distract each other, and stay on task.” (Participant 5 TD)</p> <p>“I was trying to get him a therapist to talk to about some anger issues I saw seeing but everywhere had/has a wait list due to COVID-19. I am still waiting to hear and he's been on a list for 6 months now.” (Participant 22 TD)</p>
Negative impact on literacy	
DLD, 16 (69.57%)	TD, 9 (40.91%)
<p>“Ugh, he is so behind on all of this. He still has a hard time identifying all letters, can't pronounce certain sounds, reading is very behind, spelling is terrible and writing is horrendous.” (Participant 23 DLD)</p> <p>“My son’s reading skills were greatly affected, he had trouble with sounds and spelling of words.” (Participant 20 DLD)</p>	<p>“She had fallen behind in her reading.” (Participant 1 TD)</p> <p>“Writing: she missed the opportunity to learn to write in school. i.e., with "air/land/sea line" where they learn capital, lowercase etc. So her writing (penmanship) is not great.” (Participant 8 TD)</p>
Negative impact on speech or language	
DLD, 7 (30.43%)	TD, 1 (4.55%)
<p>“Covid affected his speech skills he has hard time saying big words like hospital.” (Participant 19 DLD)</p>	<p>“I have been told he doesn't follow directions at school on work he is given. This is also true at home when completing homework.” (Participant 15 TD)</p>

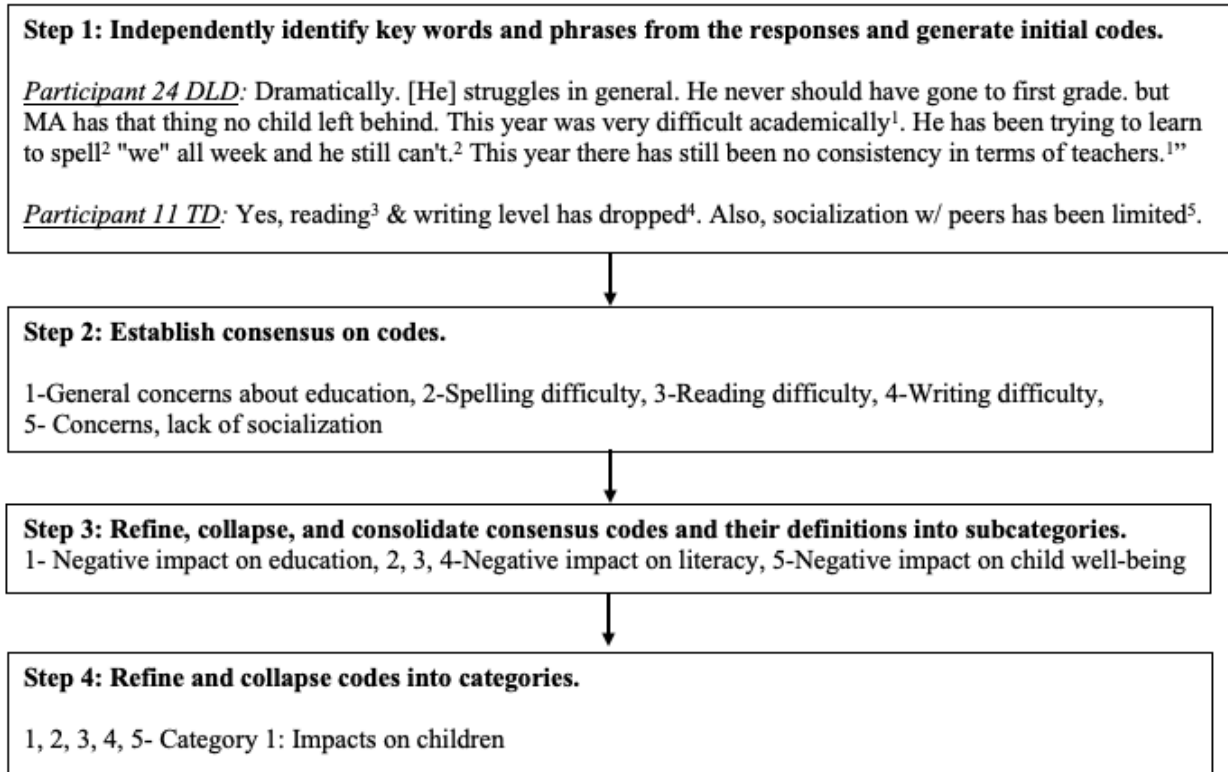
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<p>“Speech is very far behind his age level.” (Participant 11 DLD)</p>	
<p>Negative impact on education</p>	
<p>DLD, 8 (34.78%)</p>	<p>TD, 4 (18.18%)</p>
<p>“In general, I feel like my child is more behind the grade level due to covid and having to review past concepts.” (Participant 1 DLD)</p> <p>“Severely. Constantly having to self-quarantine due to close contact cases. Being taken out of school because of that.” (Participant 2 DLD)</p>	<p>“I feel the covid pandemic affected my child's education in the aspect of behavior and focus. He has a harder time staying on task and often talks or doesn't follow directions as he used to before.” (Participant 15 TD)</p> <p>“It seemed like she didn't learn anything new. Her class was still counting to 5 when she was tested and scored at the 4th month of second grade for math.” (Participant 20 TD)</p>
<p>Positive impact on the child</p>	
<p>DLD, 3 (13.04%)</p>	<p>TD, 5 (22.73%)</p>
<p>“He received a lot of one-on-one time with his special education teachers which gave him more confidence.” (Participant 7 DLD)</p> <p>“(He) has learned to focus more. He reads better and more fluently.” (Participant 21 DLD)</p>	<p>“We continued with teaching him, reading with him and helping him as best we could. He received extra speech services so he really focused on his speech and working to be conscious of mistakes and correcting them. He also is much better at following directions.” (Participant 13 TD)</p> <p>“She has been given more freedom to explore music, topics and creativity in areas of interest to her. Her language has expanded and matured. She has been able to develop complex concepts and has a great ability to express them.” (Participant 17 TD)</p>

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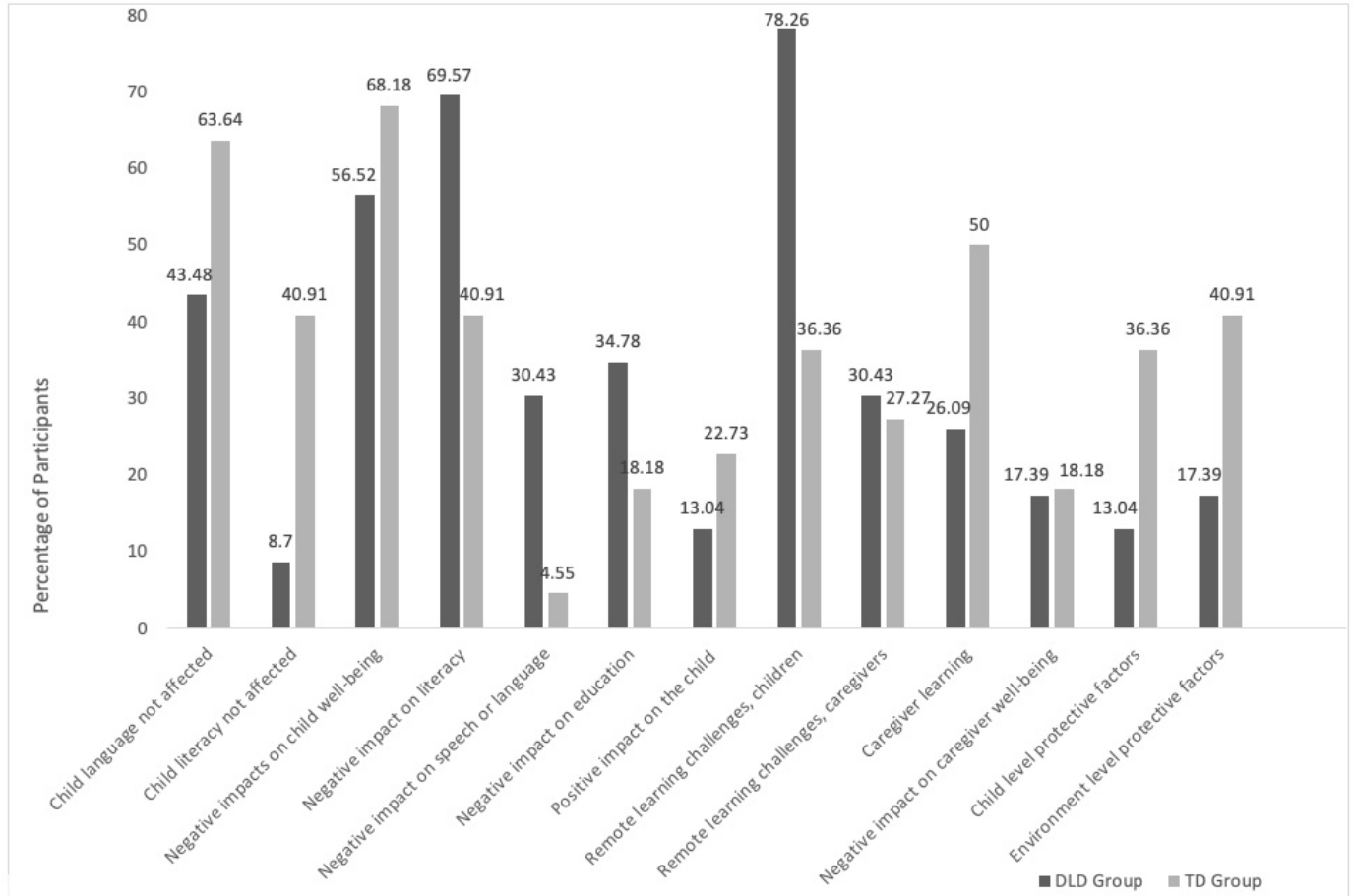
Note. Counts refer to the total number of caregivers within each group who mentioned the respective subcategory. Subcategories were counted only once per participant.

869 **Figure 1**
870
871 The coding process.
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874 *Note.* The top box indicates two participant's responses to the open-ended question, "How has
875 the COVID-19 pandemic affected your child's education?" Category 1 also included the
876 following subcategories: This category also included the additional subcategories of child
877 language not affected, child literacy not affected, negative impact on speech or language, and
878 positive impact on the child
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880

881 **Figure 2**
 882
 883 Frequency of caregiver mention of subcategories, in percentages, by group.
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