

DISSERTATION

STUDENTS WITH DISABILITIES DURING THE COVID-19 PANDEMIC:  
HOW AN INVERTED DISASTER IMPACTED EDUCATIONAL ACCESS,  
STUDENT OUTCOMES, AND FAMILY STRAIN

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## ABSTRACT

### STUDENTS WITH DISABILITIES DURING THE COVID-19 PANDEMIC: HOW AN INVERTED DISASTER IMPACTED EDUCATIONAL ACCESS, STUDENT OUTCOMES, AND FAMILY STRAIN

During the COVID-19 pandemic, school buildings were closed, and education took place through a variety of at-home, virtual, and hybrid learning models. These alternative teaching modalities were especially challenging for students with disabilities. As a socially vulnerable population, children with disabilities and their families are at greater risk of poor outcomes during disasters and disruptions in schooling.

The pandemic was also a different type of disaster. In this dissertation, I propose the COVID-19 pandemic was an inverted disaster, defined by the following characteristics: it was temporally and spatially unbounded; it posed a physical yet invisible threat to all human lives; and its ubiquity and invisibility led to the breakdown of institutional and social support systems. As schools were closed, educators were left unprepared for continued learning during such an event. Students with disabilities rely on the consistency of educational and therapeutic services, accommodations, and modifications for their continued learning and growth. The pandemic presents an urgent need to examine the delivery and consequences of education for these students, and to discover best practices for moving forward.

This dissertation is guided by the following research questions: 1) How was education altered during the pandemic? 2) How did shifts in education differentially impact students with

disabilities and their parents? and, 3) How did parents mitigate the impacts of school closures during the pandemic, despite the unique challenges posed by the disaster?

To answer these questions, I conducted a mixed-methods study that included: 1) surveys with 125 parents and caregivers of children in K-8 grades; 2) qualitative in-depth interviews with a subsample of 39 parents in Northern Colorado; and 3) social network analysis with 29 of these parents. Fifty percent of parents who participated had at least one child with a disability. This study represents a total of 248 children, 83 of which were identified as having a disability qualifying them for special education services.

First, findings from this dissertation revealed that due to a lack of preparation and planning for an inverted disaster, schools were unable to provide consistent, equitable educational services to students with disabilities throughout waves of the pandemic. These students faced structural barriers to education that limited their access to general and special education, therapeutic services, and their peers and educational support systems. Second, due to these barriers, students with disabilities experienced greater setbacks in their academics, physical and mental health, and their socio-emotional development.

Third, parents experienced strain on their roles, their homes, and their relationships. Role conflict was greater for parents who had a child with a disability. Fourth, parents of children with disabilities reported more stress, worry, and lower wellbeing than their peers. The intersectionality of disability with single parenthood, race, socioeconomic status, and work location impacted various aspects of mental health in disproportionate ways.

Fifth, parents mitigated the impacts of the pandemic and school closures by altering forms of connection with their social networks and by developing new networks to meet the

unique demands of the pandemic. Parents with stronger social support networks (i.e. larger, denser, more diverse, etc.) experienced less mental health strain than parents who had weaker networks. Social networks provided a buffer to the negative impacts of the pandemic and school closures on parents.

This dissertation contributes to scholarly literature by introducing the concept of the inverted disaster as a new way to define the pandemic and understand its impacts on educational equity, children with disabilities, and their parents. This research outlines how the characteristics of the inverted disaster led to a breakdown of institutional and support systems and to the exclusion of children with disabilities from vital educational and therapeutic services. It also examines the disproportionate impacts on parents, linking patterns of disadvantage with mental health outcomes. Methodologically, I explore how the strength of social networks can be measured and analyzed as mitigating factors on parental mental health. Based on the findings from this research, I recommend strategies for improved disaster management and educational policies for continued special education during disaster that prioritize children with disabilities. I also propose strategies for community building and strengthening social networks among at-risk families.

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## DEDICATION

*To my children, Isaac, Moses, and Lila.*

*If I had to stay-at-home, I am so grateful it was with the three of you.*

*You are my inspiration, my heart, and my courage.*

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## CHAPTER 1

### INTRODUCTION

The COVID-19 pandemic was a time of societal upheaval and collective uncertainty. During spring 2020, families with children were hit hard by lockdown orders and the closure of schools. Education was delivered inconsistently across schools and districts without a standard of best practices in place for continued education during a pandemic disaster. This was especially the case for special education and services provided to children with disabilities, as these children experienced service disruption and multiple barriers to new learning modalities. Children with disabilities and their parents struggled with the pressures of pandemic life and the lack of access to institutional and social support.

This study examines the challenges faced by children with disabilities and their families as schools changed course during the COVID-19 pandemic. Past research on disasters and school closures has demonstrated how these events increase social vulnerability. The pandemic exacerbated risk to this vulnerable population as it introduced a form of disaster in which uncertainty and social isolation reduced the ability of families to respond and recover from disaster. This study explores how educational delivery, contextualized within the pandemic, impacted social vulnerability. It also examines the ways families sought new forms of social support as a key to their resilience. The goal of this research is to recommend improved policies for increased educational equity and social support to prepare for and respond to future disasters.

## **Background**

Schools around the United States shut down beginning in March 2020, just after the novel coronavirus was declared a pandemic by the World Health Organization and an emergency declaration was made by the Trump Administration. School closures were deemed necessary to slow the spread of the virus across homes and the larger community. Along with school closures, shutdowns were also put into place for all nonessential businesses. The combination of school and business closures led to massive layoffs, resignations, and shifts to work-from-home arrangements. Almost overnight, family structure and routines were disrupted as families were isolated from their social connections outside of the home (Prime, Wade, and Browne 2020).

While most schools had contingency plans in place for reopening after a disaster, few had plans in place specially for pandemics or for continued education during a disaster (Kersten et al. 2022). This lack of preparation and planning for a disaster like the COVID-19 pandemic contributed to a high level of confusion and uncertainty regarding how to maintain educational delivery for children, and especially for special education and services.

As school buildings shut down, education shifted to at-home approaches, with children being given some form of schoolwork to complete at home. Teachers also started to experiment with virtual modes of teaching, recording their lessons, meeting students virtually, or assigning online learning apps in place of teacher-based instruction. This switch to virtual forms of education led to inequitable access to regular instruction and educational support services among lower income families, those without consistent internet access, non-native English language speakers, and children with disabilities.

Researchers, educators, and policy makers all recognized early in the pandemic that the “learn from home” approach would produce learning deficits for K-12 students. They estimated learning loss and increased achievement gaps for lower performing students (Kuhfeld and Tarasawa 2020); however, these early estimates were unable to calculate the disproportionate impact school closures would have on students with disabilities.

Prior to the pandemic, students with disabilities received a variety of special approaches and accommodations that increased their access to an equitable education. As schools were not prepared to shift regular schooling activities to at-home, they were doubly unprepared to maintain the kinds of additional accommodations and modifications required for students with disabilities. Without inclusive practices in place for continued learning, these students were unable to fully participate in the new forms of learning provided during school closures (Bekiempis 2020; McNerney 2020; Pfefferbaum 2021b, 2021a; Sonnenschein et al. 2022). As closures were extended time and time again, the risk of learning and developmental losses increased.

### **The Inverted Disaster**

The pandemic was clearly a disaster, yet its characteristics differ from what sociologists typically define as a disaster. In this section, I will outline how the pandemic defies the current typology and how it can be understood as a new category of disaster. The sociological literature on disasters is historically focused on rapid onset, spatially contained, physically and socially destructive events (Alexander 1993; Barton 1969; Fritz 1961; Quarantelli 1987). Not until the 1990s was this definition expanded to include slow and creeping disasters (Drabek 1997; Mileti 1999). These typological adjustments are necessary as disasters change over time, expanding

spatially and temporally, and causing greater and longer lasting damage (De Smet, Lagadec, and Leysen 2012).

The pandemic cannot be categorized within the temporal, spatial, physical, institutional, and social limits of the current disaster typology. I propose that the pandemic be understood as an inverted disaster, defined along the following dimensions:

1) Temporally, as an ambiguous, slow, and prolonged event without clear disaster preparation, response, and recovery phases.

2) Spatially, as a global event, with unlimited spatial boundaries.

3) Physically, leaving physical structures intact, yet causing infrastructure and social systems to become inoperable and inaccessible due to risk of exposure to an invisible threat.

The levels of risk were wide ranging and highly unpredictable. Some people showed no symptoms yet could infect dozens of others, while others quickly became deathly ill, with little ability to predict who was at risk and who was not.

4) Institutionally and socially, requiring social isolation in response to the disaster. This inward social response is the defining feature of the inverted disaster. As social distancing is instituted across systems, people are isolated from in-person institutional and social support networks, in such a way that they are unable to respond and recover together.

Temporally, disasters are divided into distinct phases. However, the COVID-19 pandemic did not correspond with a rapid or slow onset disaster timeline. The warning phase was prolonged and impact phases struck in waves, causing the impact, response, and recovery phases to merge (Peleg et al. 2021). The pandemic ebbed and flowed, as variants of the virus mutated and varied in their infectability and severity (Yamori and Goltz 2021). Still, the disaster

is on-going; it may never come to a full stop. The ambiguous timeline of the pandemic added to the confusion and uncertainty that characterized this event.

Spatially, disasters are typically geographically contained and bounded events (Fritz 1961). However, the COVID-19 pandemic was global and without borders (Yamori and Goltz 2021). The word pandemic in the original Greek, literally means 'all people' (Yamori and Goltz 2021). Everyone was at risk of infection and of spreading the virus, international travel was shut down because of the risk of spreading the virus to new locations (Yamori and Goltz 2021).

Physically, disasters are caused by a visible threat and measured in terms of tangible destruction and economic cost. In the case of the pandemic, physical structures were left intact, yet the high risk of exposure to an invisible virus caused most public places (transportation, schools, workplaces, etc.) to be inaccessible or highly restricted. In addition, the physical loss of life, the number of infections and hospitalizations, and the economic costs were astronomic. For example, over the three-year period of 2020-2022, the same time frame as the COVID-19 pandemic, there were 60 disasters in the United States that reached a combined economic cost of 451.8 billion dollars and caused the deaths of 1,460 people (NOAA National Centers for Environmental Information (NCEI) 2023). The COVID-19 pandemic, by comparison, caused 103 million infections, 6.2 million hospitalizations, and 1.1 million deaths, just in the United States (Centers for Disease Control and Prevention (CDC) 2023; World Health Organization 2023). The cost of the pandemic is estimated at \$14 trillion (Walmsley et al. 2023).

Socially, disasters often stimulate a coming together of family, neighbors, and community. They ignite social bonding and cooperation as people respond to and recover from disaster (Aldrich 2012; Erikson 1978, 1994; Solnit 2009). Contrary to our standard social

response to disasters, the pandemic caused an inward turn towards social isolation. As quarantines were ordered, families were unable to access their external social relationships or their supportive institutions. We often look to relationships within our jobs, schools, families, or churches as systems of support during a disaster. Yet the pandemic did not allow for this in-person response. As our infrastructure and social systems broke down, our inability to access these institutions and networks created barriers to recovery.



Figure 1.1. Dimensions and Characteristics of Typical and Inverted Disasters

The inverted disaster concept aids us in better understanding the COVID-19 pandemic as an ongoing event, without physical borders, which breaks down institutional and social support systems, thereby prohibiting community recovery. Throughout this study, the inverted disaster will be used to provide a framework for thinking specifically about the impact of the pandemic on educational systems. This framework contextualizes our understanding of how the pandemic and school closures affected the social vulnerability and resilience of children

with disabilities and their families. It illuminates how this inverted disaster created uncertainty, fear, and social isolation that impacted the ability of educators and parents to respond.

### **The Research Problem**

Approaching the topic of education during the COVID-19 pandemic requires initial consideration regarding the uniqueness of this event. The pandemic was a disaster, yet it did not neatly fit into the current disaster typology used by researchers, practitioners, and policymakers. Instead, it was an inverted disaster with unique temporal, spatial, physical, institutional, and social characteristics. It was a prolonged and ongoing event without clear preparation, response, and recovery phases. It was global and without borders. While physical structures remained intact, our institutional and social structures were unprepared and inaccessible due to the invisible threat of the virus. As social isolation was instituted across systems, resource and support networks were disrupted, thus creating barriers to response and recovery.

Researchers have consistently found that school closures produce learning gaps (Gibbs et al. 2019; Kuhfeld and Tarasawa 2020; Samsel and Nadworny 2017) and that children with disabilities experience greater social vulnerability than their peers (Peek and Stough 2010). In times of disaster, mothers often face added strain as they take on new caregiving roles. To mitigate impacts on their children and themselves, they access resources through their supportive networks. Some of the unique challenges of this inverted disaster were the cascading impacts of disruptions in home, work, education, and social routines. The lack of preparation for an inverted disaster exacerbated the social vulnerability of students with disabilities and reduced the resilience of their families.

Past research on missed schooling, summer learning gaps, and disasters give us key information about what to expect during pandemic school closures. Chronic absences have a direct impact on reading and math scores, high school graduation rates (Hernandez 2012), and increased learning gaps (Carey 2002; Downey, Von Hippel, and Broh 2004). Summer school closures cause a loss of 2-3 months of learning (Kuhfeld and Tarasawa 2020) and learning gaps increase for at-risk students (Alexander, Entwisle, and Olson 2007; Downey et al. 2004; Von Hippel, Workman, and Downey 2018). Disaster-related school closures also detrimentally impact learning (Gibbs et al. 2019).

Children with disabilities are especially vulnerable to missed schooling and school closures. Specifically, during a disaster, they experience additional social vulnerability, physically, psychologically, and educationally (Peek and Stough 2010). Although these students are at risk when their special education services, accommodations, and modifications are disrupted, they are still often excluded from planning and preparation for disasters (Ronoh, Gaillard, and Marlowe 2015). Not only are these students left out of disaster planning, but schools were wholly unprepared for an inverted disaster to strike in 2020. The pandemic caused prolonged school closures and implementation of reactive strategies for continued education. These factors require exploration as to their impacts on educational access and outcomes for children with disabilities.

During disasters, families utilize their networks to access social capital. These informal support systems are often more effective than formal forms of support at improving recovery outcomes (Aldrich 2012; Casagrande, McIlvaine-Newsad, and Jones 2015). Unfortunately, these networks and processes were interrupted during the pandemic, along with other forms of

institutional support. Pandemic-imposed closures and social isolation disrupted support systems in ways that have not previously been experienced during a disaster. This rupture in access to institutional and social support adds to the complexity of resilience to the pandemic.

In addition to accessing institutional and social support during a disaster, researchers have also found that families rely more prominently on traditional gender roles to meet evolving family needs (Morrow and Enarson 1994; Fothergill 1999). As parents, and most often, mothers, manage the children and the household, along with the additional role expectations gained during a disaster, they experience more role conflict, role strain, and mental health distress (Arnberg, Bergh Johannesson, and Michel 2013; Fothergill 1999). Parents of disabled children experience greater daily stress and strain than their peers (McConnell and Savage 2015; Whiting 2013, 2014), and may therefore be at greater risk of distress during a disaster. As parents are isolated from traditional systems of support during an inverted disaster, these compounding stressors may further increase their social vulnerability and reduce their resilience in the face of disaster.

The pandemic, acting as an inverted disaster, led to unfolding events that impacted the already socially vulnerable position of children with disabilities and their families. To reduce the spread of the virus, schools and nonessential workplaces shut down, altering the roles of family members and the home itself. Lack of planning for continued schooling during a disaster and exclusion of children with disabilities from disaster planning threatened access to education for those students who were most vulnerable. As parents sought out support, they were barred from accessing institutions and social support networks, decreasing their ability to respond to the pandemic and the increased needs of their children.

The school closures caused by the COVID-19 pandemic present a research problem that must be addressed. While research data is available on children and families during a disaster, most of this research is focused on rapid onset events. Less is currently known about how an inverted disaster, like the pandemic, impacts children and families. In the case of the COVID-19 pandemic, school closures were extended for indeterminate lengths of time. These closures were instigated due to the elements of the inverted disaster, in which temporal phases of the disaster were unclear and spatial boundaries did not exist. Families were cut off from the in-person social and institutional support systems they traditionally rely on in times of need due to the invisible threat of the virus in social spaces. The pandemic calls on us to better understand this new type of disaster, how children with disabilities and their families were impacted, and how they coped with the strains of the pandemic.

### ***Research Aims, Objectives, and Questions***

The aim of this study is to examine the challenges faced by children with disabilities and their families as they experienced changes in schooling during the COVID-19 pandemic and to understand the ways parents mitigated these challenges.

The first objective of this project is to identify the educational practices employed during the COVID-19 pandemic and the disparities in access experienced by children with disabilities. The second objective is to assess how those practices and inequalities impacted the social vulnerability of children with disabilities and their parents in disparate ways. The third objective is to analyze how families utilized their social networks to increase resilience to the pandemic. These mechanisms may provide a key to improving educational, family support, and disaster management policies.

These aims and objectives lead to three primary research questions, followed by related sub questions, which are answered by this study:

1. How was education altered during the pandemic?
  - a. How did the unique features of the pandemic influence the planning, preparedness, and response of schools to the disaster?
  - b. How did this response alter educational access and experiences for students with disabilities and their families?
2. How did shifts in education differentially impact students with disabilities and their parents?
  - a. What educational, physical, psychological, and socio-emotional impacts were experienced by children with disabilities?
  - b. What specific challenges did parents face?
  - c. How did these challenges impact the mental health of parents?
  - d. What other factors were related to mental health outcomes for parents?
3. How did parents mitigate the impacts of school closures during the pandemic, despite the unique challenges posed by the disaster?
  - a. How did parents access their social networks?
  - b. What forms of social capital were shared?
  - c. How did social network characteristics impact the mental health of parents?

***Study Context: Timing and Location***

I collected data in three phases. During the pilot study phase, interview data was collected between fall 2020 and spring 2021. The second phase of data collection included

interviews, surveys, and social network data, and occurred between fall 2021 and spring 2022. Finally, I collected a third round of survey data during spring 2023.

The initial site of interview, survey, and social network data collection occurred in Northern Colorado, primarily in Larimer County. Larimer County is in north central Colorado. It is situated along the Front Range, just east of the Rocky Mountains. Its southern border is 40 miles directly north of Denver and on the northern side it borders Wyoming.

In 2020, the population of Larimer County was just under 360,000 residents. The racial composition of the county is 80.9% white non-Hispanic, 12.7% Hispanic or Latino, 2.5% Asian, and 1.3% Black or African American, 1.2% American Indian and Alaskan Native, and 3.0% two or more races. Approximately 18.1% of residents are under 18 years of age and 17.5% are 65 years and older. High school graduates comprise 96.3% of the population and 50.9% of adults (25 years and older) have a bachelor's degree. The median household income in Larimer County was \$76,300 in 2020 and 11.1% were living in poverty. Voters in Larimer County tend to lean politically liberal.

The largest city in Larimer County is Fort Collins. It had a population of 169,000 in 2020. The demographics of Fort Collins are similar to the overall county except it has a higher college graduate rate of 58.3% and a lower median household income of \$70,500. Fort Collins is known for being the home of Colorado State University. Loveland, Larimer County's second largest city had 76,000 residents at the start of the pandemic. In comparison to Fort Collins, the composition of Loveland is less racially diverse and less educated.

Interview participants were located within the two largest school districts in Larimer County, Poudre School District in Fort Collins and Thompson School District in Loveland.

Poudre School District manages 55 schools and had a total enrolment of 30,754 students during the 2019/2020 school year. Of those students, 27.1% were racially minoritized. Students eligible for free and reduced lunch made up 30.5% of the student population. In terms of gender, 48.4% are female. In addition, 11.7% are identified as gifted and talented, 6.2% are English Language Learners, and 3% are unhoused.

In 2020, 9.2% of students in the district received special education services and 4.7% of students were on a 504 Plan. These percentages have increased to 10.1% and 6.3% respectively (2023/2024 data). To break this down by grade level (2023/2024 data are in parentheses), students with IEPs accounted for 11.2% of elementary students (13.0%), 8.8% of middle school students (10.2%), and 8.2% of high school students (8.9%). Students with a 504 Plan accounted for 0.9% in elementary school (3.1%), 6.5% in middle school (8.5%), and 6.2% of high school students (9.0%).

The second largest school district is Thompson School District. It educates 16,163 students in 35 schools. The student demographics in this district are 27.9% racially minoritized, 38.7% qualify for free and reduced lunch, 48.3% female, 10.1% are gifted and talented, 3.3% are English language learners, 2.5% are unhoused, and 12.6% receive special education services.

To diversify the racial and economic backgrounds of participants in my sample, as well as to engage with a politically diverse climate, I also recruited participants from Weld County. This county sits directly to the east of Larimer County across the I-25 Freeway. Voters in this county lean politically conservative.

In 2020, the population of Weld County was just under 330,000. The racial composition of the county is 63.4% white non-Hispanic, 31.0% Hispanic or Latino, 2.1% Asian, and 1.9% Black or African American, 1.7% American Indian and Alaskan Native, and 2.5% two or more races. Residents under 18 years old account for 25.2% of the population and 13.0% are 65 years and older. High school graduates make up 88.3% of the population and those with a bachelor's degree make up 30.7% of adults over 25 years old. The median household income in Weld County was \$74,300 in 2020 with a poverty rate of 9.1%.

The largest city in Weld County is Greeley with a population of 109,000 in 2020. Greeley has a smaller proportion of white residents (53.4%) and greater population of Hispanic residents (39.9%) than the overall county. Other demographics closely match Weld County.

The largest school district in Weld County is Greeley-Evans District 6. It manages 35 schools and 22,544 students. Of those students, 68.7% are racially minoritized, 58.8% are free and reduced lunch eligible, 48.7% are female, 23.3% are English language learners, 4.5% are gifted and talented, 0.9% are unhoused, and 11.2% receive special education services. The majority of participants in Weld County belonged to District 6, however, four additional districts were represented.

I chose Northern Colorado and specifically Larimer and Weld counties as my study location because I am personally embedded in the area. As a doctoral student at Colorado State University and a resident of Fort Collins, I am familiar with the local area and the school districts. My own children attend schools in Poudre School District. My connections to teachers and parents, knowledge of special education policies in these districts, and experience with schools in the region provided me with background knowledge and access to these locations.

Strategically, these school districts in Northern Colorado are unique in that they have school choice policies in place for their students and families. These policies allow parents to choose a school for their child to attend. There is a wide variety of school options including, neighborhood, core knowledge, International Baccalaureate (IB), project-based learning, dual language/immersion, public-charter schools, and online programs. In addition, the region has charter and private schools outside of district control. This variety of school types and parent choice allowed me to understand a breadth of experiences in terms of schooling during the pandemic. In addition, I came to find that due to the lack of clear guidelines and planning for an inverted disaster, even within one school district, there was a chaotic variety of approaches to teaching that varied from school to school and even classroom to classroom. Families often have children in more than one school, thus adding to the variation in experiences. Due to these factors, I prioritized breadth of experiences over analyzing a specific type or location.

While interview and social network data were collected in Northern Colorado, survey data was more geographically widespread. I recruited additional survey participants during my third phase of data collection in spring 2023 through online and network-based recruitment methods. This was done to increase sample size and allow for statistical analysis. My survey sample was not a nationally representative sample, rather participants were located primarily in Northern Colorado, with additional participants scattered throughout the country. This dispersed pattern was due to my recruitment methods and the networks through which respondents shared the survey link with others.

## **Methods**

This study used a mixed-methods approach to answer the research questions outlined above. Qualitative approaches are designed to capture rich, descriptive data regarding how things happen and how people experience these processes. Knowledge of these experiences and how they impact families could be enhanced by using quantitative approaches that simplify the reporting of data. To meet these goals, I conducted social surveys, in-depth qualitative interviews, and social network surveys with parents of children in grades pre-Kindergarten through eighth grade following pandemic school closures.

First, 125 parents completed a social survey about their experiences with schooling during the pandemic, their observed impacts on children, and their own perceived stress, wellbeing, and worry during that time. Survey data was analyzed using R. This data provides a quantitative overview of the demographics of participants and the trends that were experienced. Measures of stress, wellbeing, and worry illuminate the overall mental health strain experienced by parents and allowed me to compare those who experienced higher strain with those who experienced less strain overall.

To better understand how parents and their children experienced the changes to education during the COVID-19 pandemic, I conducted in-depth, qualitative interviews with a subsample of 39 parents. In addition to being parents of school aged children, 12 parents were also educators who shared their observations from this alternate perspective. Interviews focused on how education was provided to children, how these changes were experienced, how children and the family were impacted, and how they coped with these changes. This data was transcribed and thematically analyzed using MAXQDA (VERBI Software 2021).

Finally, social network analysis was collected on 29 of the parents who were interviewed. The social network survey gathered information on how parents utilized their personal social networks to share and receive resources and services by drawing on their relationships and social capital. This data was analyzed using R (R Core Team 2021) and Visone (Brandes and Wagner 2004) to better understand the strategies employed by parents to meet their needs during the pandemic and mitigate the outcomes on their own health and on the social vulnerability of their children.

### **Significance**

The goals of this research are to first understand the impacts of the pandemic on children with disabilities and their families, and second, to explore the ways parents mitigated school closures and the loss of support during the pandemic. I chose this topic to study because as a mother of children with disabilities I was disheartened to find that schools were unprepared to maintain services for these students. I wanted to learn more about their experiences and document the specific challenges faced by these families.

The field of disaster preparedness is about understanding what the impacts of a disaster might be and putting plans in place to minimize those impacts. It was apparent immediately in March 2020 that schools had no plans for maintaining classroom instruction during a pandemic, and even fewer plans for maintaining educational support services for students with disabilities (Morando-Rhim and Ekin 2021).

Students with disabilities receive much more than classroom instruction from schools; they receive a wide variety of other supports, which were also impacted by the pandemic. Given that schools are mandated by law to provide education and assistive services to students

with disabilities, this study aims to understand how and if the variety of educational services were accounted for during the plans for remote and hybrid learning. Vulnerable students are often overlooked during a disaster and their needs are the last to be met during the recovery process (Peek and Stough 2010). Thus, this study is designed to understand whether these common patterns of amplification of vulnerability were the same or different than in other types of disasters.

While the pandemic affected every sector of society and all types of families, this study aims to understand if, when, and how the needs of students with disabilities were considered and factored into educational plans. This study seeks to understand the uniqueness of an inverted disaster and to explore in depth the variety of impacts on students with disabilities and their families. It provides a detailed case study of 62 families with students with disabilities across several different school districts and dozens of schools, and a comparison to 62 families without a student with a disability.

As I explore the pandemic as an inverted disaster and its impacts on children with disabilities, an existing gap in the sociology of disaster literature will be filled. While there is much research on children and families in relation to rapid onset disasters, there is less work done in relation to slow onset, creeping disasters. The pandemic also presents a new type of disaster, in which temporal categories merge, spatial boundaries vanish, and we respond to the catastrophe by turning inward, socially isolating ourselves within the home and away from our social connections. This requires a reframing of our current disaster typology. This study will increase our understanding of this new type of disaster and its impacts on vulnerable

populations. By studying this event and increasing awareness of these issues, future policies will be better able to address solutions for future disasters of this type.

This research extends knowledge on the sociology of disasters, children and families with disabilities, and educational equity. While this is important, it also informs practical recommendations for equitable disaster planning, ensuring educational equity during a pandemic, and policies to increase positive outcomes for children with disabilities and their families. As climate change and public health crises increase our exposure to inverted disasters, these changes to policy will be essential to improving future outcomes.

Changes in disaster planning for schools and special education will be recommended by this study, with an emphasis on continuing education and equitable access for children with disabilities. How can equitable access to learning be ensured during a pandemic for students with disabilities? How can negative outcomes be limited for these vulnerable children? Answers to these questions will be explored and the following recommendations have implications for emergency managers, school administrators, educators, and families.

In addition to examining the child with disability, this study sheds light on how family life and wellbeing are impacted by the loss of institutional and social support during the pandemic and school closures. This study aims to recommend policies that increase supportive systems for vulnerable families dealing with disability. How can society better support these families and reduce their risk of negative outcomes? How can policy support resilient families in the face of future disasters? The recommendations that emerge from this research will be useful for schools, social services, and other institutions focused on enhancing resilience for students with disabilities, their families, and their communities.

## **Positionality**

Before proceeding to describe this study and its findings in more detail in the following chapters, I want to address my own positionality within the context of this research and share how I came to study this topic for my dissertation. While this research project began in the early months of the pandemic, the initial idea was conceived years earlier.

I am a mother of three children and two of my children have disability diagnoses and receive special education services and accommodations. My oldest was diagnosed at the age of three. Following his diagnosis, he began a special education program and participated in multiple forms of therapy each week through school and a local therapy center.

As his mother, that experience had a profound effect on me. I very clearly remember sitting in the waiting room during one of his many therapy sessions. This particular session took place in September 2013, as the Colorado Floods were impacting the Northern Colorado region. As I looked around the waiting room at the other parents with their children, some of which I felt had more severe needs than my own son, I wondered what would happen if they suddenly lost access to therapy and special education because of a disaster. These children needed the therapies and services they were receiving to live a fuller life. I wondered how their development and future outcomes would be impacted if a disaster shut down their schools and their services. This experience led me to apply to the doctoral program in sociology, to answer these questions about social vulnerability, children with disabilities, and disasters.

Fast forward to March 2020. When I heard the news that schools were closing their doors and at-home learning would take place indefinitely, I cried. As a low-income, single mother of three children between first and eighth grade, two of which had disabilities, I did not

know how we would cope. Those hypothetical disaster scenarios were now very real. I wondered how my children, and all children with disabilities, would be impacted by these changes. This research study emerged from my own experience with schooling during the pandemic, special education, and work-from-home. As I taught virtual classes, designed my study, collected and analyzed data, I was surrounded by my children in their respective corners of our campus-apartment living room. I helped them with their at-home lessons, observed their virtual classrooms, and sat side-by-side with my child during special education sessions.

I share this story to acknowledge my social location as a white, low-income, single parent of students with disabilities and its influence on the direction of this research. My social location placed me in a unique position as an insider, along with my prior knowledge of disasters and social vulnerability, to call out the unique features of this disaster and its impact on other parents like me and their children. By taking the insider role, I was inherently credible and was able to gain access and connect with other parents. Because we had a shared knowledge and lived experience of disabilities and special education, I was able to gain depth and breadth of insight from parents through mutual trust, sympathy, and understanding (Dwyer and Buckle 2009).

As my insider status influenced this study, it can also introduce bias. The parents I interviewed were not homogenous and I had to continually reflect on my own assumptions and biases (Bucarius 2013). I maintained reflexivity regarding my positionality in relation to my participants, allowing a process of introspection to influence my study design, data collection, and analysis (Gold 1958). I sought a 'space between' (Dwyer and Buckle 2009) in which I could maintain the space between sameness and difference, between insider and outsider. As a

researcher, I was part of my study, but also separate from it. This space of paradox and ambiguity is where research happens, where reflection, and self-awareness take place, where openness, authenticity, and honesty resides to gain a full perspective of the participants' true experiences and to be able to represent these experiences to others (Dwyer and Buckle 2009).

### **Dissertation Outline**

As I conclude this introduction, I will share what is to come in the following chapters.

In Chapter 2, the current state of the literature will be outlined as it provides context for the research study. I first share literature regarding the education system, special education, and how changes in schooling impacted learning during the pandemic. Next, I address the issue of social vulnerability to disasters for children with disabilities and their families. I also provide an overview of social capital and social networks and their relationship to families during disaster.

In Chapter 3, the methods for this study are presented. I explain how social surveys, qualitative in-depth interviews, and social network surveys were utilized to answer the research questions, along with a description of the data collection and analysis methods used.

The findings for this study are presented in Chapters 4 through 8.

Chapter 4 draws on the data gathered from in-depth interviews. In this chapter, I describe the state of special education during the pandemic and highlight how at-home, virtual, and hybrid learning were implemented for students with disabilities. I also show how these changes in learning caused fundamental changes in routine and the structure of the home and family relationships.

The focus of Chapter 5 is on the impact of school closures for children with disabilities. These children experienced decreases in educational, physical, psychological, and socio-emotional development due to their increased social vulnerability during the pandemic.

Chapter 6 then places the focus on parents' experiences. This chapter illustrates how the pandemic affected parenting expectations, entrenching traditional gender roles, and increasing role conflict and role strain. School closures also placed strain on the role of the home as a space for sanctuary from these external forces and increased interpersonal conflict with family members both inside and outside of the home.

In Chapter 7, I use social survey data to examine the impacts of parents' experiences on their mental health. Role, space, and interpersonal conflict affected the mental health outcomes for parents, including increased stress, anxiety, fear, hopelessness, depression, and loneliness. I also address how the mental health scores of various demographic groups varied.

In the final results chapter, Chapter 8, I address the ways that parents relied on their social networks, both old and new, to alleviate the impact to mental health and how they utilized their relationships to create forms of support. Parents found new ways to share support with family and friends by creating pandemic bubbles and learning pods, or by moving their networks into virtual space. This chapter uses social network analysis to analyze differences in social networks across parents and how these differences impact mental health strain.

Chapter 9 concludes this study. In this final chapter, I draw on the findings depicted in Chapters 4 through 8 and tie these findings to the literature in the field, and to ways this research can be utilized to implement positive changes in the areas of special education, family welfare policy, and disaster management.

## CHAPTER 2

### LITERATURE REVIEW

In this chapter, I will first outline the events of the COVID-19 pandemic that contributed to the closure of the public school system across the United States. Following the discussion, I will provide an overview of public education and special education in the United States, as well as how the pandemic's unfolding impacted education and children with disabilities. Previous studies on disasters have highlighted the role that schools play for children and families during times of crisis. School shutdowns particularly impact the social vulnerability of students with disabilities. Not only are children with disabilities at risk during a disaster, or inverted disaster, but school closures also place their families at risk, introducing impacts on parenting roles, interpersonal conflict, and mental health. Finally, I will explore the literature on social capital as one potential strategy for building resilience during disasters.

#### **The Pandemic**

The SARS CoV-2 virus first infected people in Wuhan, China in mid-December 2019 and was identified as a novel coronavirus on January 7, 2020 (Centers for Disease Control and Prevention (CDC) 2023). The first death from the virus was reported on January 11, 2020. As countries around the world deliberated the effects this new virus would have, what precautions may be necessary, and how they should respond to travel and safety, the virus was already making its way across the ocean.

The first case of the virus in the United States was detected in Washington State on January 20, 2020, causing an emergency response to be activated by the Center for Disease

Control (CDC). By February 11, worldwide deaths reached over 1,000 and the WHO officially named the disease COVID-19. By March 11, 2020, there were only 60 known cases in the United States, yet 118,000 identified across the world. Within one month, cases in the United States would increase to over 500,000 and the death toll for the country would stand at 18,600 lives lost (Centers for Disease Control and Prevention (CDC) 2023).

A pandemic is defined as “an epidemic occurring over a very wide area, crossing international boundaries, and usually affecting a large number of people” (Porta 2014). Pandemics vary in terms of severity, but are typically novel, highly infectious, rapidly spreading, and characterized by low population immunity (Morens 2013). The World Health Organization declared COVID-19 a pandemic on March 11, 2020. On March 13, the Trump Administration declared a nationwide emergency. The death toll reached over 1 million deaths by June 1, 2022, in the United States alone (Centers for Disease Control and Prevention (CDC) 2023).

In March of 2020, as awareness of the pandemic first made impact and lockdowns were established across the United States, many educational institutions came to a standstill. As communities and public health departments attempted to flatten the curve, the effects on the economy, the healthcare system, families, and education ebbed and flowed along with the infection rates, case counts, and death tolls, as well as with our trust in information. Schools shut down. Small businesses went into crisis. Workers were laid off and the unemployment phone lines became almost impossible to connect us with someone who could help (Koenig 2020). Those on the front lines, doctors and nurses, city bus drivers, police officers, meat packaging workers, and even grocery store clerks, faced some of the greatest risks of infection, hospitalization, and death, while workers in other industries transitioned to work-from-home.

Hospitals were overrun with cases, quickly running out of beds, ventilators, and staff to care for the sick. Those at greatest risk of the virus were the elderly and those with prior health conditions (Centers for Disease Control and Prevention (CDC) 2020). However, racial, ethnic minorities, and the poor also faced increased risk due to lack of access to health care, working in service jobs that could not be completed from home, and poor working conditions (Kaur 2020; Koenig 2020; Sullivan 2020).

The impacts of the pandemic were wide and far reaching. One aspect that had a profound effect on children and their families was the closure of schools across the country, reaching all levels of education from preschool to colleges and universities.

## **Education**

COVID-19 brought on a crisis for the nation's K-12 education system. Acting as an inverted disaster, the pandemic left school buildings standing, yet caused a breakdown in the social structure of educational and family support systems.

All levels of the education system went through a multitude of adjustments during the COVID-19 crisis. Due to risks of infection, all 50 states either ordered or recommended that schools close in March 2020. Over 124,000 schools across the country shut down, transitioning to at-home learning or virtual schooling (Education Week 2020). At least 90% of school children globally and 50.8 million children in the United States were affected (UNESCO 2020b, 2020a).

School districts were unprepared to take on continued education during the pandemic. A 2016 study of school health policies and practices found that while 73.6% of schools had a plan for pandemics, only 33.7% included plans for completely closing their schools, and 43.0%

included plans for continuity of education. These plans varied by region, school size, poverty level, and metro status (Kersten et al. 2022).

While schools and districts varied in their approaches, many similarities were present across the country. Generally, to finish the spring semester of the 2019/2020 school year, public schools transitioned to an at-home learning format from March 2020 to the end of the school year. School children were provided packets of work, sent home with their textbooks, or sent assignments through a virtual platform to complete. Depending on the level of preparedness and ability to pivot towards virtual learning, teachers also attempted to connect with students virtually to maintain social connections and provide virtual learning opportunities. This tended to be infrequent for younger children in elementary school, and more frequent for middle and high school students.

Over the summer of 2020, schools around the country prepared for the uncertainty of the ongoing pandemic for the fall. On August 17, 2020, just as schools around the country should have been reopening to students, COVID-19 was named the 3<sup>rd</sup> leading cause of death in the United States with cases reaching 5.4 million and over 1,000 deaths reported each day (Centers for Disease Control and Prevention (CDC) 2023). Due to the recent surge in cases, for most public schools, virtual learning became the norm for the beginning of the new school year. Virtual learning became a regular part of the school day with scheduled class times and a return to learning new content. Of course, these modalities varied among public school systems and private and charter schools chose their own paths. Hybrid schooling also took shape as COVID-19 infection and hospitalization rates ebbed and flowed over time. Local politics also influenced

school reopening and learning modalities. Schools in more conservative districts were more likely to reopen earlier in the fall than other districts.

These changes to K-12 schooling during the spring and fall of 2020 created a state of chaos and uncertainty for students, families, and educators. It was also unknown how these changes to learning impacted children and their families. It was apparent early on that there was a need for educational research to focus on equitable access to education, learning outcomes, and to provide guidance to educators on how best to proceed throughout the pandemic (DeMatthews et al. 2020).

One significant impact of school closures was the reduction of days in school for students. Schools in the United States experienced an average of 14 weeks of full closure and an additional 63 weeks of partial closure during 2020-2021 (UNESCO Institute for Statistics 2022). School children missed a median of 54 days of instruction during 2020 alone (Christakis, Van Cleve, and Zimmerman 2020). While the COVID-19 pandemic was a unique event, research on chronic absences, summer slide, and school closures caused by disasters can help us understand the impact of school closures on students.

Chronic absence, missing 10 school days a year or more, is a measure used to understand student success in schools. Chronic absence has a direct impact on reading and math scores, and high school graduation rates (Hernandez 2012). Missed days of in-person schooling increases achievement gaps, especially for low socioeconomic status groups, racial and ethnic minorities, and students with disabilities (Carey 2002; Downey et al. 2004). The 'summer slide' also affects learning and increases learning gaps for disadvantaged students. Studies found a summer learning gap that increased due to lack of educational opportunities at

home (Alexander et al. 2007; Downey et al. 2004; Von Hippel et al. 2018). Students lose an average of 2-3 months of academic progress during the summer months when schools are closed (Kuhfeld and Tarasawa 2020). Disasters can also cause missed days of learning which impact educational growth (Samsel and Nadworny 2017). For example, a study of Australian bushfires in 2009 found that school closures led to a decrease in reading score gains between third and fifth grade (Gibbs et al. 2019).

Early in the pandemic, it was hypothesized that a COVID-19 slide would mimic summer slide patterns, suggesting that students would return to school with 70% of typical reading gains and only 50% of typical math gains by the beginning of fall 2020 (Kuhfeld and Tarasawa 2020). Recent studies of learning during the pandemic found these hypotheses to be accurate as students fell behind in their math, reading, and writing scores (Kuhfeld and Lewis 2022). A metareview of school closures found that students lost an average 35% of a school years' worth of learning during the pandemic, depending on how long school closures were in place and socioeconomic status of the school district (Betthäuser, Bach-Mortensen, and Engzell 2023).

In the three-year period between 2019 and 2022, scores for math, reading, and history fell across school districts in the United States (Betthäuser et al. 2023; Fahle et al. 2023; Goldhaber et al. 2022; Goldstein 2023; Skar, Graham, and Huebner 2022; U.S. Department of Education 2023b, 2023c, 2023d). Writing quality, handwriting fluency, and motivation for writing also decreased significantly for 1<sup>st</sup> grade students (Skar et al. 2022).

The Educational Opportunity Project at Stanford conducted a study of 7800 communities in 41 states and found that math scores fell by an average of half a school year and reading scores fell by an average of a quarter of a year. These drops increased for students

in the poorest districts, with students in the richest and poorest schools scoring a difference of 4 years of learning between them in math and reading. Schools in the poorest districts also have higher rates of racially minoritized students, so these gaps increased inequality by socioeconomic status, but also by race. Other factors related to larger learning gaps were the length of school and community shutdowns, higher death rates, and higher unemployment rates (Fahle et al. 2023).

The Harvard Center for Educational Policy Research conducted a similar study comparing 2019 and 2021 math scores. The study found that students who were able to return to in-person learning lost 20% of math gains compared to students who continued virtual learning. These students lost 50% of their learning gains in math. Schools with high poverty rates had more weeks of remote learning than low poverty districts, thus children of lower socioeconomic status and racial minorities were most affected by pandemic closures. These differences existed between school districts, but not within schools, indicating that the disparity is at the level of the school district (Goldhaber et al. 2022).

Data from the National Assessment of Educational Progress (NAEP) shows that fourth grade students dropped from 41% to 36% in math proficiency. Eighth graders dropped from 34% to 26% and a 10% drop occurred in students enrolled in algebra (Goldstein 2023; U.S. Department of Education 2023b). Reading scores also declined by 3 points since 2019 and history scores also declined (U.S. Department of Education 2023c, 2023d). Students in the bottom quartile lost the most achievement. For example, eighth grade students performing below the basic level for history increased from 34% in 2018 to 40% in 2022 (U.S. Department

of Education 2023d). This data indicated that reading and math scores for eighth grade students are now at the lowest point in over 20 years (Goldstein 2023).

This data also suggests that the lowest performers prior to the COVID-19 pandemic were hit the hardest in terms of their learning outcomes (Goldstein 2023). While these studies point to disparities across socioeconomic status and race, one demographic group of students that is not addressed is students with disabilities. These students experience growth during a typical school year but suffer greater summer learning loss than their peers (NWEA 2021). As these children receiving special education are at a greater disadvantage during school closures, their progress during the pandemic must be addressed. This dissertation study will address this oversight.

### **Special Education and Equitable Access to Learning**

Children with disabilities represent a special case in education during the pandemic. Students who participated in special educational services were likely disproportionately impacted by the changes to schooling beginning in the spring of 2020. Children receiving special education services make up approximately 14% of all school children between the ages of 3 and 21 (National Center for Education Statistics 2020). Students are eligible for special education services when a disability hinders their academic performance. Specific learning disabilities make up 33% of this population. These include disorders that impede the ability to “listen, think, speak, read, write, spell, or do mathematical calculations,” such as perceptual disabilities, brain injury or dysfunction, dyslexia, and aphasia (National Center for Education Statistics 2020). Other common diagnoses include speech or language impairments (19%), other health

impairments (15%), autism spectrum disorders (11%), developmental delays (7%), and intellectual disabilities (6%) (National Center for Education Statistics 2020).

Special education services are codified by the Individuals with Disabilities Education Act of 1997 (IDEA) (2004) and Section 504 of the Rehabilitation Act of 1973 (2002), which mandate that a “free and appropriate public education” (FAPE) be provided to all students with disabilities (Griffith 2015; U.S. Department of Education 2023a). A primary directive of IDEA is to integrate children with special needs into the regular classroom when possible and provide services as needed to encourage their success (IDEA Part B Subsection 612(5)(B)). Services may be provided within an integrated classroom, for example, with the help of a paraprofessional, outside support with individualized or small group learning with a special education teacher, or in specialized learning environments for children with disabilities (U.S. Department of Education 2023a). Beyond educational supports for math, reading, and writing, children with disabilities may also receive rehabilitation services such as speech, physical, or occupational therapies, or medical interventions, as needed to address their specific needs as identified by their individualized education plan (IEP), 504 plan, or individual health plan (IHP) (Griffith 2015; U.S. Department of Education 2023a).

It is required by law that schools comply with the goals and services implemented within the IEP, 504 plan, or IHP. However, services and accommodations for students with disabilities are not provided equally to all students. Racial and class-based disparities exist in terms of accessibility to special education services (Broege and Anderson 2020). One reason for this is caused by funding disparities.

First, funding for general and special education programs varies depending on location. Funding for public education is based on state allocations and property taxes, creating vast differences in resources such as teacher salaries, book and supply availability, opportunities for arts, sports, and other activities (Kozol 2005). Funding per student ranges between \$7,600 and \$24,000 per year (United States Census Bureau 2018). These funding disparities impact the availability of resources for schools that allow them to provide education to all students and impact the educational outcomes for students (National Center for Education Statistics 2020). These variations contribute to learning gaps for racially minoritized and low-income students (Carey 2002; Downey et al. 2004), as well as students with disabilities.

Second, services for special education are more costly than for the average student and require additional funding (Griffith 2015). However, this funding is difficult to assess at the state level, as the federal government does not require state funds to be used for special education, and these figures are not commonly reported (Griffith 2015). Federal funding for special education is mandated by IDEA and is provided to states through grants. IDEA requires the government to pay 40 percent of the average per-pupil funding for each student receiving special education services. However, during 2019-2020, these grants paid out less than half the required amount (UNESCO 2020b).

This decreased funding has consequences for special education students. A past study found that increased special education funding was correlated with greater academic growth and a lessening of achievement gaps (Cruz et al. 2022). Funding disparities may partially cause the current shortage of certified special education teachers. News reports during the 2020/2021 school year suggested that this shortage increased due to added stress from the

pandemic and the backlog of evaluations and paperwork following the re-opening of schools (Jones 2021; MacFarlane, Leslie, and Piper 2021; Natanson, Strauss, and Frey 2021). As schools in lower socioeconomic status districts also tend to have higher enrollment of racially minoritized students, the intersectionality of race, class, and disability exacerbate these differences in access and outcomes (Broege and Anderson 2020).

In addition to funding disparities, an equitable education must also provide high-level curriculum, effective teachers, fair discipline policies, extra academic supports for low-performing students, access to technology, comprehensive family services, mentorship, and trained counselors (Barth 2016).

### ***Educational Equity***

Since 1954, the Brown v Board of Education ruling has required schools to open their doors to all children and provide equal educational opportunity. While this decision hinted at issues of equity, 80% of children with disabilities were still excluded from education until the passage of the Education of All Handicapped Children Act of 1975 (EHA) which mandated their inclusion in public schooling. Section 504 of the Rehabilitation Act of 1973 (2002) and the Americans with Disabilities Act of 1990 (1990) provide additional accommodations and enforcement of those resources, paving the way for increased access (U.S. Department of Education 2023a).

Unfortunately, equal access and educational outcomes continue to face barriers. Under the equality model, students are all treated the same and provided with the same resources. However, this model does not account for differences in ability. Equity models account for these needs and shift our thinking towards educational outcomes. As stated by the Center for

Public Education, “Equity is achieved when all students receive the resources they need so they can graduate prepared for success after high school” (Barth 2016:1).

The National School Board Association states “Public schools should provide equitable access and ensure that all students have the knowledge and skills to succeed as contributing members of a rapidly changing, global society, regardless of factors such as race, gender, sexual orientation, ethnic background, English proficiency, immigration status, socioeconomic status, or disability” (Barth 2016:2).

The concept of educational equity has transitioned away from an equal opportunity measure, towards a model which focuses on producing similar educational outcomes different social groups (Sahlberg 2022). Achieving equity requires that on an individual level, students receive access to learning that enables them to gain knowledge, skills, and competencies to reach their personal educational and career goals. On the social level, equity also requires that various social demographic groups be achieving a range of similar educational outcomes (Sahlberg 2022).

Unfortunately, the pandemic may have instigated a shift away from an equity model based on educational outcomes and reinstated practices of equal opportunity or outright exclusion. According to early news reports, without plans in place to address special education during school closures, these services were reduced or canceled altogether and many students with disabilities had limited access to the services that were provided (Bekiempis 2020; McNerney 2020; Zimmer and Zimmerman 2020). One survey conducted online (n=153) corroborates these early reports (Sonnenschein et al. 2022). This dissertation will examine

these issues further to determine whether access to education was provided to children with disabilities during the pandemic in an equitable manner.

### **Children with Disabilities**

The social vulnerability framework (Peek and Stough 2010) highlights how the outcomes from disasters arise from an intersection of natural hazards and human action (Cutter et al. 2008). Risk is unevenly distributed throughout a population during a disaster based on social, political, and economic factors (Wisner, Gaillard, and Kelman 2012). Children with disabilities are at high risk due to physical, psychological, and educational vulnerabilities during a disaster (Peek and Stough 2010). Other factors create additional vulnerability, for example, “...the age of the child intersects with other personal and social characteristics, such as his or her geographic location, family structure, socioeconomic status, physical and mental ability, stage of development, and nationality” (2010:1261).

After conducting interviews with a convenience sample (n=26), Fish et al. (2023) summed up social vulnerability during the pandemic; it operated much the same way that vulnerability operates during other disasters. Pervasive ableism—and intersections of ableism with racism and other systems of oppression—exacerbated these inequalities especially for students from under resourced and racially and ethnically minoritized populations, services were woefully inadequate. The crisis of COVID-19 has exacerbated these inequalities. (Fish et al. 2023:21). In the following sections, I will review the literature on educational, physical, psychological, and socio-emotional vulnerability for children with disabilities during disasters generally and review the nascent literature about the unique vulnerabilities and inequalities that emerged during the pandemic.

### ***Educational Vulnerability***

Children with disabilities are already more vulnerable than other students, and these vulnerabilities are exacerbated during a disaster. Studies found that children with disabilities are often ignored during disaster planning and response (Ronoh et al. 2015). These children were also at higher risk of losing educational gains when school is disrupted (Peek 2008). Children with disabilities have increased educational demands and behavioral issues following a crisis. While educational services can help mitigate these issues, special education services are often the last to be reinstated after a disruption (Peek 2008). Following a disaster, teacher shortages occur, and educators are often overwhelmed by the increase in students' educational and socio-emotional needs and their own experiences and attempts to recover (Osofsky, Osofsky, and Harris 2007). Students with disabilities then suffer academically, and the learning gap increases for this population (Peek and Stough 2010).

The COVID-19 pandemic illustrates these educational vulnerabilities. While school buildings were not damaged during the pandemic, they had to shut down, and education was disrupted. Lack of planning for school closures was evident, especially in regard to planning for students with disabilities. When school buildings initially shut down in spring 2020, schools in some states without clear plans chose to delay a shift to virtual schooling modalities. These educators were concerned that by providing virtual schooling for general education students, they may violate IDEA if they could not translate services for children with disabilities in the same way. Other schools asked parents to sign waivers that allowed the school to withhold special education services for their children and violate their IEPs (Broege and Anderson 2020).

According to news reports, some schools faced legal ramifications related to services withheld during the pandemic (Karami 2021).

Lack of planning for continued learning continued into the following school year. While districts and schools were in preparation for the fall of 2020, many failed to develop adequate strategies for continued education of children with disabilities. In a review of 106 school reopening plans, 12% did not even mention students with disabilities. Of those that did, details were mostly absent; 52% recommended in-person learning for these students and only 33% called for interventions and increased support (Morando-Rhim and Ekin 2021). Knowing that schools did not have plans in place for students with disabilities is only part of the story. This study will examine whether the lack of plans may have influenced educational access and outcomes for these children.

Due to lack of planning for this population, the Understanding America Survey (national study of 1400 families) found that of those receiving special education services prior to the pandemic, one third did not receive these services during changes to schooling (Morando-Rhim and Ekin 2021). Another study of 1500 families found that 44% of parents reported that their child's access to equitable education was abandoned during virtual learning (Morando-Rhim and Ekin 2021).

One reason for these issues may be that teachers were unprepared to teach effectively during school closures. In a study of K-12 teachers in New York state, less than half reported providing learning materials in varied modalities for students with disabilities. They also reported feeling overwhelmed with providing accessible materials during online learning (Catalano, Torff, and Anderson 2021).

Early reports during the pandemic suggested that children with disabilities had less in-person or virtual instruction than their peers and they were often denied services required by their IEPs. One study (n=153) found that special education and other service hours were decreased. Sixty percent of parents reported that their children received less hours of special education during the pandemic and school closures (Sonnenschein et al. 2022). A review of the literature concluded that decreased educational hours caused a greater likelihood of regression in learning and development for children with disabilities (Jesus et al. 2021).

According to a nationally representative study conducted in the fall of 2020, 74% of students with disabilities participated in most remote-learning activities. However, further studies also found that these students had a lower level of engagement and attendance. Only 29% of teachers reported that their students with disabilities completed most of their assignments during remote learning compared to 51% of students participating in in-person learning (Morando-Rhim and Ekin 2021). A survey of teachers in New York corroborated this data and found that 30% of students with disabilities were not completing their schoolwork. This was exacerbated in high needs districts in which 35.8% of students were not completing their work compared to 22.4% in low needs districts (Catalano et al. 2021). As a result, 60% of parents reported that their child is a year behind their peers and may never catch up. Students were more likely to fail courses, especially in math (Morando-Rhim and Ekin 2021). A recent review of the literature found that children with disabilities were at a high risk of educational regression during the pandemic (Darmody, Smyth, and Russell 2021).

For students who did attend virtual learning, questions of educational access remain. According to self-reports by parents, children with disabilities struggled with remote learning

(Asbury et al. 2021). For example, some students are unable to see the computer screen due to vision impairments or hear their teacher clearly through the laptop speaker due to hearing impairments. Others could not physically access or respond because of physical or cognitive limitations. Parents reported that many younger children with disabilities also could not comprehend virtual learning (Steed et al. 2022).

Initial studies of educational inequality coming out of the pandemic indicate that schools struggled to provide access to students with disabilities. In this case study, I will explore whether these same patterns of reduced or inaccessible services were present in Colorado, and additionally, how uncertainty and educational access had compounding impacts on students and families.

### ***Physical Vulnerability***

Children with disabilities are often medically or cognitively compromised, placing them at greater risk of physical harm during a disaster. Vulnerability is exacerbated for this population due to decreased mobility, preexisting medical conditions, and policies that limit social and physical access to services and care (Peek and Stough 2010). Children with sensory processing disorders, such as autism spectrum disorder, may experience additional challenges as their environments and routines become unpredictable and they are unable to cope with those changes (Boon et al. 2011). School closures also impact physical skills, as essential speech, occupational, and physical therapy services are disrupted (Peek and Stough 2010).

While the COVID-19 pandemic led to home-based quarantine rather than displacement, these same physical risks are relevant. In the case of the pandemic, children with medical complications were more at risk of COVID-19 infection. Parents reported they lacked access to

medical services and providers (Allison and Levac 2022; Cacioppo et al. 2021; Jesus et al. 2021). For those requiring medical interventions, only 22% of children with disabilities were able to follow up with medical professionals (Cacioppo et al. 2021).

For children receiving rehabilitation services, only 48% continued with physical therapy and only 27% continued their occupational therapy (Cacioppo et al. 2021). According to another study, 42% of children with disabilities lost access to all therapy services (Allison and Levac 2022). For those still receiving services, parents reported a significant decrease in the number of hours provided during lockdown (Sonnenschein et al. 2022). Due to these changes in service, 40% of parents observed declines in motor, behavioral, social, and communication skills (Allison and Levac 2022).

Following the return to in-person learning, these students continued to face struggles due to their physical vulnerabilities. Parents reported that their children would be unable to follow safety protocols required to return to schools (37%) and children with sensory issues would not be able to wear masks in school (13%) (Sonnenschein et al. 2022). These continuing and compounding impacts on physical vulnerability during the pandemic require further exploration.

### ***Psychological Vulnerability***

Children with disabilities also experience psychological vulnerability during a disaster (Kronenberg et al. 2010; Peek and Stough 2010). Children with disabilities rely heavily on their caregivers to provide physical, communicative, and emotional support. However, caregivers suffer from increased anxiety, posttraumatic stress disorder, or depression during a disaster, affecting their ability to care for their child and potentially causing psychological harm

(Appleyard and Osofsky 2003). This is intensified for children with disabilities, as their parents experience a higher level of trauma and stress due to their child's needs, increased demands, and the lack of support available during a disaster.

These conditions may have held true for the pandemic. At the start of the pandemic, parents reported increased social isolation, stress, and anxiety during lockdowns and school closures (Prime et al. 2020). Outside caregivers were also absent from the child's life due to social distancing measures. These factors add additional psychological risk for the child with a disability. Fortunately, research found that while children may experience short-term trauma during a disaster, they tend to adapt over time and recover with the proper supports in place (La Greca et al. 2010; Masten 2001).

Children are also at risk of experiencing effects on their mental health during disasters, including depression and post-traumatic stress (Gil-Rivas and Kilmer 2013; Kronenberg et al. 2010; Zhang et al. 2010). For youth, these experiences have an impact on deviant behavior, such as increased aggression and violence (Madkour et al. 2011; Marsee 2008), and increased substance abuse (Peters et al. 2010; Rowe, LaGreca, and Alexandersson 2010).

In reviews of the literature on COVID-19 and past epidemics, school closures caused high levels of stress, anxiety, depression, acute stress disorder, and post-traumatic stress disorder in children (Araújo et al. 2021; Marques De Miranda et al. 2020). Another review found that children experienced increases in depression, suicidal ideation and behavior, and increased anxiety (Pfefferbaum 2021b). Another review estimated that children with disabilities were three times more likely to experience depression due to school disruptions compared to their peers (Morando-Rhim and Ekin 2021).

Early studies suggest that children with disabilities, such as autism and ADHD, additionally struggled with lack of structure and routine disruption (Marques De Miranda et al. 2020; Mutluer, Doenyas, and Aslan Genc 2020). Comparing children with autism before and after school closures, children with autism showed signs of PTSD, including increased aggression, hypersensitivity, behavioral problems, sleep disorder, and appetite changes (Mutluer et al. 2020). A study of students with emotional disorders (n=142) found they had increased anxiety and stress, especially related to health and school (Adegboye et al. 2021).

The pandemic was a stressful period for students and their families. However, it is essential to examine whether this event had disproportionate psychological impacts on students with disabilities. This study will consider the breadth of impacts on these children.

### ***Socio-emotional Vulnerability***

Socio-emotional vulnerability is less present in the literature on disasters and children with disabilities. However, recent studies suggest that children with disabilities struggled with their social and emotional development during the pandemic. A large survey administered in France (n=1000) found that school closures negatively impacted the morale of 44% of children with physical disabilities and impacts on behavior were observed in 55% of these children. This study also found that 55% of these children were socially isolated from other children during lockdown (Cacioppo et al. 2021). A small (n=200) study across countries reported that school closures caused social isolation and lack of communication and socialization, further impacting social development (Onyema et al. 2020).

As school closures were extended, early childhood teachers raised concerns regarding the decrease in social skills and daily living skills observed in children with disabilities

(Sonnenschein et al. 2022). Increases in social anxiety were also noted. In a nationally representative study, 48% of parents of children with disabilities reported high levels of social anxiety in their children that led to physical symptoms and missed learning time (Morando-Rhim and Ekin 2021).

Social isolation is detrimental to children with autism who have challenges related to social skills and communication. Disruptions to their routine and increased uncertainty are risk factors that may increase these issues (Colizzi et al. 2020; Eshraghi et al. 2020). A review of the literature concluded that due to these changes during the pandemic, children with autism displayed more intense behavioral problems, impacting their ability to develop socially. Students were more likely to become agitated, anxious, and distressed (Jesus et al. 2021).

It should be noted that some parents reported positive changes for their autistic children. While initially, these children struggled with changes to routine and behavior, a small study in Spain found that over time parents were able to establish new routines, children were better able to participate in family activities, more communicative with parents, learn new skills in the home, and family cohesion (Mumbardó-Adam, Barnet-López, and Balboni 2021).

This case study will examine whether these early findings are supported in the experiences of children with disabilities in Colorado. The breadth of socio-emotional impacts will be explored in relation to school closures, loss of routine, and increased uncertainty during the pandemic.

### **Family Wellbeing**

While the closure of schools has a direct impact on learning and child development, there are additional impacts on family wellbeing. Changes due to school closures drastically

reconfigured and reinstated traditional gender roles within the family structure and created role conflict for parents taking on the role of educators within the home. These changes caused stress, anxiety, or depression for children and parents, conflict among family members, and increases in interpersonal conflict and violence (Prime et al. 2020). As families adjusted to changes in education, they were also facing unlimited stressors, including health concerns, financial issues, loss of employment, and lack of support or resources (Prime et al. 2020). The combined effects of these stressors along with the added responsibility of teaching children from home, while working, created additional effects on wellbeing.

### ***Role Strain in the Home***

One way that school closures impacted families was by causing disruption and upheaval in the home space. As lockdowns were put into place, the home was suddenly transformed into an isolated space for living, working, and learning. In this way, families became emplaced in the home, yet displaced and alienated from outside spaces (Devine-Wright et al. 2020). Another way to think about this is in how the “outside has invaded our homes, which used to be, for many, places of refuge and privacy. Now they have become proxies for schools, offices, pubs, and fitness clubs” (Devine-Wright et al. 2020:2).

These changes to the home space affect our subjective meanings of home and impact mental health and wellbeing. For example, one study found that the meaning of home during lockdown consisted of feelings of being bored by work from home, lack of social life, feeling like living in a prison, as well as a place of safety, and a place of loneliness (Gezici Yalçın and Düzen 2022). One study indicated that social distancing and lockdown created an ‘inescapable

proximity' within households to manage their home relationships creating strain (McNeilly and Reece 2020).

Parents adjusted to these disruptions of the home space while also adjusting their own roles as parents. Role theory posits that roles are integrated sets of social norms on how one should behave (Burr et al. 1979). It should be noted here that the role is socially constructed as the expected behavior of a person occupying a particular status (Goffman 1959). When one cannot meet these societal expectations, role strain or conflict develops (Fothergill 2012; Goffman 1959). Role strain is the feeling of difficulty associated with fulfilling role obligations for a single role (Burr et al. 1979; Fothergill 2012). Role conflict, on the other hand, occurs when the obligations for two separate roles conflict with each other (Fothergill 2012). For example, parents might feel role strain as they take on the obligations of educating their children as a new set of parenting expectations. Role conflict might exist for parents who are also in the role of employee as they attempt to work from home and parent/educate their children during school closures.

Role strain or conflict are likely when one is taking on multiple roles (Kahn et al. 1964). This is experienced as "the stress generated within a person when he or she either cannot comply or has difficulty complying with the expectations of a role or set of roles" (Burr et al. 1979:57). These experiences arise when new roles are suddenly thrust upon parents, as occurred during the pandemic. These strains can be decreased if parents compartmentalize roles and spaces in the home (Quah 2020). Role accumulation occurs when one can integrate their roles under their identity and negotiate the demands of each role. Being capable of accumulating roles can add to feelings of self-worth and self-efficacy (Fothergill 2012).

During the pandemic, mothers were especially susceptible to role strain and conflict. Married women experienced role conflict as they managed working from home with roles of a wife and mother adding to their exhaustion, stress, and strain (Nikmah, Indrianti, and Pribadi 2021). Parents of young children were meeting the demands of parenting while also trying to meet work demands (Qian and Fuller 2020). This can lead to feelings of failure as parents try to balance their roles and find they cannot be successful in one role or the other, confusing their sense of self (Kell 2020). McNeilly and Reece described this as, “the conflation of disparate roles and relationships – mother, teacher, employee, partner – unsettled mothers’ understandings of self...” (2020:21). In a study of teachers who were also parents, role conflict was associated with feelings of guilt and regret, lack of time and space, perpetually distracting noise, spillover from the experience of all things occurring in one space, and emotional dissonance while trying to hide negative emotions from their own children and students (Kell 2020).

### ***Gender Roles***

Gender was an important factor in determining these new parenting roles during the pandemic. Women tended to take on primary caregiving duties which included managing education, development, and socialization of their school age children, in addition to working from home, caring for others, and managing their household. Women tend to take on these caregiving roles, regardless of their paid work status (Hochschild 1989). They are also more likely to be stay-at-home parents, work part time, or adjust their hours to accommodate the needs of the family (Collins 2019).

This gendering of roles is also true during disasters. Mothers often take on additional caregiving duties as their roles expand to encompass recovery from disaster (Enarson et al.

1998). This may include keeping children occupied, safe, and entertained, returning the home to a sense of safety, and helping others in their community (Fothergill 1999).

During the pandemic, 42% of all workers transitioned to working from home (Bloom 2020). Women were 20% more likely than men to work from home (Bureau of Labor Statistics 2022). As schools closed and childcare was disrupted, parents and especially mothers increased their unpaid labor in the home (Collins, Landivar, et al. 2021; Collins, Ruppanner, et al. 2021; Petts, Carlson, and Pepin 2021). Mothers were over 3 times more likely to be responsible for caregiving and the home than fathers (Madgavkar et al. 2021). Caregiving hours increased during the pandemic. In particular, 62% of mothers reported they spent over 40 hours caring for children per week in 2020 compared with only 12.5 hours in 2019 (Woodbridge, Um, and Duys 2021). The second shift, including education for children, was primarily women's work, increasing gender inequity in the household (Alon et al. 2020; Carlson, Petts, and Pepin 2022).

Women are also more at-risk during disaster and have a harder time recovering following disaster than men (Enarson, Fothergill, and Peek 2007; Enarson et al. 2007; Fothergill 1999, 2012). Studies during the pandemic found the same to be true. Women faced more home/work life burdens, workplace disruptions, negative impacts on daily life, childcare responsibilities, and more mental load. They were also more likely to lose their jobs and seek unemployment (Raile et al. 2021). Women were also more exposed to the COVID-19 virus as they are a greater portion of the healthcare workforce and take on client facing roles. For example, 86% of nurses are women (World Bank 2020).

In addition to their greater exposure to the virus in healthcare settings, women were more likely to be in employment sectors that were hit hardest by closures including retail,

education, and leisure (Thomason and Macias-Alonso 2020; World Bank 2020). Employment for women was more precarious, as they are more likely to work in minimum wage or low wage jobs (Thomason and Macias-Alonso 2020). Over 60% of jobs lost by mid-March of 2020 were for women workers (Bureau of Labor Statistics 2020).

### ***Interpersonal Conflict***

Another aspect of conflict that needs consideration is the interpersonal conflict that can develop in times of stress and uncertainty. Studies on disasters have found an increase in interpersonal conflict and violence within the home (Enarson 1999; Fothergill 1999, 2012). Studies during the pandemic also found increases in gender-based violence due to increased stress, isolation, and confinement (World Bank 2020). Studies found that social isolation led to an increase in domestic violence cases (Buttell and Ferreira 2020; Holmes et al. 2020). Conflict between parents and children also increased along with higher parent caregiving levels and stress (Russell et al. 2020).

### ***Mental Health***

Mental health is at risk during times of disaster, and this was also the case during the pandemic. Past research on disasters found that those who experience crisis often report feelings of depression, anxiety, increased stress, post-traumatic stress disorder, and increased interpersonal conflict. Signs of post-traumatic stress disorder are prevalent 6 years post-disaster (Arnberg et al. 2013).

The pandemic also induced added risk to wellbeing and mental health due to the increase in social isolation, distance from friends and family, loss of daily routine, and loss of comforting traditions and celebrations. These aspects of daily life are essential to a whole

family approach to wellbeing (Prime et al. 2020). One third of families reported feelings of increased anxiety and stress related to COVID-19 (Statistics Canada 2020). Feelings of isolation during the pandemic add to pressures of daily life, feelings of loneliness, and of depression. Studies also find correlations between the pandemic, mental health conditions, substance abuse, and suicidal ideation (Czeisler et al. 2020). While examining of the impacts on children with disabilities, it is important to consider the mental health of parents as their health affects the psychological vulnerability of their children (Peek and Stough 2010).

Uncertainty characterized COVID-19. Uncertainty is “the presence of ambiguous, complex, and unpredictable conditions and a lack of information availability and consistency, where people doubt public, general, and their own knowledge” (Brashers 2001:478). Uncertainty causes psychological distress and emotional exhaustion as resources needed for maintaining mood and stability are depleted (Godinic, Obrenovic, and Khudaykulov 2020). It triggers stress (Greco and Roger 2003) and anxiety (Grupe and Nitschke 2013). This was the case during the pandemic. As parents struggled with uncertainty, anxiety and depression were elevated. This was even more certain for vulnerable groups (Rettie and Daniels 2021).

In a review of the literature, 79% of studies found a relationship between uncertainty and mental health, including increases in stress, distress, post-traumatic stress disorder, anxiety, and depression (Massazza et al. 2023). During a pandemic, anxiety, anger, feelings of helplessness, distress, fear, depression, and stress can increase. In addition to these mental health impacts, quarantine can also induce confusion, frustration, boredom, and post-traumatic stress disorder (Esterwood and Saeed 2020). In another review, it was found that school

closures due to the pandemic increased high stress in parents and their children, as well as anxiety, depression, acute and post-traumatic stress disorders (Araújo et al. 2021).

### ***Disparities and Disability***

While all parents were affected by changes to life during the pandemic, some families were disproportionately impacted. One study found that different racial and socioeconomic groups experienced stress in different ways. Analyzing survey data collected online (n=223), researchers found that low-income parents and parents of color experienced greater hardships and stress related to finances and resources. White parents felt more stress over restructuring their home spaces (70%), planning education and other activities (62%), and missing work (23%) (Chen, Byrne, and Vélez 2022). Low-income parents were more at risk of losing pay or their employment (40%) and they were more worried about their employment risks (20%) (Chen et al. 2022).

When examining the distribution of disadvantages, families that include children with disabilities need additional consideration. Uncertainty and lack of communication regarding special education schooling for children with disabilities led to a decline in mental health for half of parents in one study (Dickinson and Yates 2020). These parents also reported worry over their child's loss of progress and cancelled learning and therapeutic services. A cause of this mental health load on parents was the lack of access to education and other services for their children. This led to stress, anxiety, and feeling unequipped as parents to handle these educational roles for their children (Jesus et al. 2021).

Parents of children with disabilities experience greater physical, social, and emotional stress in daily living (Whiting 2013, 2014). They face more stressors on average than their peers

(McConnell and Savage 2015). During the pandemic, these stressors increased causing parents to feel overwhelmed and worried (Asbury et al. 2021). The greatest parental concern was rehabilitation for their children (72%) and their own mental load (50%) (Cacioppo et al. 2021). In a comparative study of children with disabilities, parents of children with autism reported the highest levels of stress (Cheng, Yang, and Deng 2022).

Anxiety also increased for parents of children with disabilities during pandemic (Tsibidaki 2021). This was due to the expanded parenting roles of education and therapies, loss of routine, and lack of supportive social networks (Asbury et al. 2021; Greer and Pierce 2021). A study of children with autism found that parents experienced high anxiety levels correlated with the level of behavioral problems experienced during school closures (Mutluer et al. 2020).

### **Social Networks and Resilience**

This study takes a systems approach to examining the processes of stress and resilience among families during the COVID-19 pandemic. This study focuses on children and their families, yet resilience is encased within individuals, families, schools, and communities. For the purposes of this study, community resilience and social networks are considered as contributing factors in resilience during the pandemic.

While disasters and pandemics send a shock through the community system, research also shows that communities pull together during times of disaster to promote resilience (Solnit 2009). Community resilience can be understood as either a process, the absence of adverse effect, or as a range of response attributes or outcomes (Patel et al. 2017). A frequently cited definition that combines these attributes defines resilience as a community's capacities, skills, and knowledge that allows the community to participate fully in the recovery from disasters

(Coles and Buckle 2004). A common myth is that recovery depends on federal or state response to instigate resilience. While this is true to a limited extent, studies also find that it is the response of local groups and organizations, social support systems, neighbors and kin that have the most immediate effect on resilience (Aldrich 2012; Solnit 2009).

A review of the community resilience concept finds the following to be common elements: local knowledge, community networks and relationships, communication, health, governance and leadership, resources, economic investment, preparedness, and mental outlook (Patel et al. 2017). Within these elements, aspects of social capital and social networks emerge. Social capital can be understood as either an individual or collective resource. It may also be defined by its cognitive or structural aspects (Sanyal and Routray 2016). For the purposes of this study, social capital can be understood as “a resource for individual and collective actors created by the configuration and content of the network of their more or less durable social relations” (Adler and Kwon 2009:93). This concept focuses on a structural understanding of social capital that lies within social networks. Resources embedded within these network relations can be accessed by members of the network when needed (Adler and Kwon 2009).

Network theory assumes that individuals are embedded in webs of relations and interactions. Social network analysis is used to understand how individuals, represented as nodes, are related to each other, through social connections or ties. These ties represent types of interactions and the flow of resources between individuals. Network theory also assumes that individual outcomes and characteristics are functions of their location within a network. This social environment can explain behavior and outcomes (Borgatti et al. 2009).

Ego networks are a depiction of the relationships surrounding an individual (adams, Santos, and Williams 2020). Examining an individual's personal ego network can allow us to map out their social relations and their access to social capital within their network. In an ego network, the individual in question is called the ego. The people they are connected to are called alters. Within these networks, tangible and intangible resources can be shared. In studies of disasters, ego networks can be used to better understand how resources flow through a network to aid in responding to and recovering from a disaster (Sadri et al. 2018). In addition to analyzing the flow of resources, other network characteristics may be relevant, such as the size of the network, the diversity of its members, and the density of relationship ties, among other characteristics.

Studies on disaster have found that community recovery is determined by the existence and mobilization of social capital. The effect of social capital on recovery is greater than the effects of other factors including socioeconomic status, population density, amount of damage, and governmental aid (Aldrich 2012). Rather than relying on larger entities, families seek out assistance from their personal networks of neighbors, friends, and family during a disaster (Casagrande et al. 2015). These forms of bonding social capital, based on similarity in kinship and friendship ties, are relied on heavily during sudden-onset, short-term disasters. For example, studies on neighborhoods affected by Hurricane Katrina found that successful response and recovery are correlated with collective social capital (Elliott et al. 2010). Research on slow-onset, creeping disasters indicates a similar pattern for all three stages of disaster response and recovery (Nguyen-Trung et al. 2020). Recovery from disaster is faster when individuals rely on their networks rather than formal means of assistance (Sadri et al. 2018).

Additionally, those who have a greater reserve of social capital experience more positive mental health outcomes, including experiencing less role strain (Fothergill 1999), lower levels of depression, stress (Adeola and Picou 2014), and post-traumatic stress disorder (Ganapati 2012).

Much of the research on social capital during the pandemic examined its impact on the spread of the virus. Communities with greater collective social capital experienced lower infection and death rates (Bartscher et al. 2020; Borgonovi, Andrieu, and Subramanian 2021; Makridis and Wu 2021). A study across seven European nations found that higher levels of social capital correlated with between 12-32% fewer cases per capita (Bartscher et al. 2020). This was especially true during the early months of the pandemic and relational social capital had a greater effect than cognitive social capital over time (Borgonovi et al. 2021). Why was this the case? One reason is because people living in high social capital communities had better access to information about the virus which shaped their behaviors. These individuals used more protective modifications and their mobility decreased (Bartscher et al. 2020; Borgonovi and Andrieu 2020).

The COVID-19 pandemic introduced new challenges to common disaster coping mechanisms. While slow-onset disasters are conducive to bonding social capital, the inverted nature of the COVID-19 pandemic created barriers for traditional kinship and friendship ties to act as a source of social support. Often during a disaster, people band together as neighbors and families to save our homes, save lives, share resources, and recover. Yet, during the pandemic, people were ordered to stay apart and quarantine in their homes due to the risk of spreading the virus. People look to their local institutions, schools, and teachers to provide care and education for our children during times of need. Yet, during the pandemic, schools shut

down and locked their doors. To access social capital during lockdowns and periods of social isolation, families had to reimagine and reconfigure their social networks to meet their needs.

Social isolation is an obvious barrier to social networks and access to social capital. Studies found that social distancing orders severely disabled social connections (Bierman, Upenieks, and Schieman 2021; Bristol et al. 2021; Elmer, Mepham, and Stadtfeld 2020; Kovacs et al. 2021). In a longitudinal study beginning pre-pandemic, network size and density decreased following lockdown and those with a smaller network size experienced more loneliness than those with larger networks (Kovacs et al. 2021). People with fewer social network connections during the pandemic experienced a greater sense of loneliness and a greater decrease in their perceived level of health (Bierman et al. 2021; Elmer et al. 2020).

A study of caregivers for elderly relations found that due to network disruptions, loneliness and stress increased during lockdown. Caregivers were especially vulnerable to changes in their social networks, as they provided necessary instrumental and emotional support and reduced the isolating nature of the caregiving role prior to the pandemic (Bristol et al. 2021). This was also true for parents of neurodiverse children. These parents were cut off, not only from institutional forms of support, but also from their social networks, and they received very little social support. Due to the nature of their children's needs and the pandemic restrictions, they could not rely on others to help with care. They felt isolated and their mental health suffered as a result (Currie et al. 2022).

On a positive note, individuals with access to social networks and social capital during the pandemic experienced improvements in their mental health. Individual social capital acted as a buffer to the impacts of pandemic restrictions and was associated with lower distress

(Fulkerson et al. 2022; Laurence and Kim 2021). Social capital also related to decreasing the struggles experienced during lockdown, and decreased anxiety and stress (Snel et al. 2022).

People with a strong level of neighborhood identity reported a stronger social network and more social capital. These factors correlated with decreased feelings of loneliness and better health outcomes (Jaspal and Breakwell 2022). Another study found that in neighborhoods with high social capital, residents were more resilient and able to cope, and more likely to comply with health guidelines (Carter and Cordero 2022). This may be related to having face-to-face contact with neighbors during restrictions. Face-to-face social connections mitigated the stressors of the pandemic and reduced poor mental health outcomes (Litwin and Levinsky 2022). They also facilitated access to bonding social capital (Vacchiano 2023).

This overview of pandemic impacts on social networks brings up new questions regarding our response to COVID-19 lockdowns and school closures. How were families responding during the pandemic without proximity to their social connections? How were they mitigating the impacts of the pandemic on their children and themselves without these supports in place? While they were physically distant, many parents found ways to continue supporting each other during the pandemic. This study explores these support strategies.

## **Conclusion**

The COVID-19 pandemic was a catastrophic disaster. It caused the deaths of over six million people around the world and many more illnesses and hospitalizations. In addition to the immediate risks of infection and death, it also caused massive impacts on our economic, health, educational, political, and familial systems, among other sectors of our society.

This disaster was an inverted disaster, meaning that while physical structures were unharmed, the physical toll on people was vast, spanning across the globe and occurring in waves over an undefined period. While buildings, including schools, remained intact, they were shut down for extended time periods and the infrastructure to continue schooling for millions of children was disrupted. Children and their families were cut off from their social and institutional support systems, disallowing them from reacting to and recovering from the pandemic using the traditional methods. This inward approach to the pandemic created a unique phenomenon in the experience of disasters, and one that added barriers to response and recovery.

The current literature on educational equity, children with disabilities, family wellbeing, and social networks provide the background for understanding the impacts of this unusual type of disaster. The literature shows that children with disabilities are at greater risk of educational, physical, and psychological impacts during a disaster and school closures. Their families also experience greater strain as they attempt to manage their roles as parents during a crisis. Early studies of pandemic school closures showed similar trends. While social capital is a useful tool for families experiencing a disaster, the pandemic created a barrier to this resource in the form of school closures, lockdown orders, and quarantines.

When I began this research study, very little was known about how pandemic school closures would occur over time, whether practices would be implemented equitably, and ultimately how these decisions would impact children with disabilities. At the present time, research has shown that there are negative impacts to the varied approaches schools across the country took for continuing education. Much of this research consists of small, localized

studies. And while there are larger studies on students at large, students with disabilities are not the focus of this research. This study adds to the recent literature, providing a mixed methods case study of children with disabilities, examining a broad set of outcomes, and expanding this work to examine impacts on parents, mental health, and resilience.

Using the inverted disaster conceptualization, I will examine how the pandemic exacerbated inequities in our education system and placed children with disabilities at greater risk, not only educationally, physically, and psychologically, but also socio-emotionally. By researching the impacts school closures had on students with disabilities and their parents, I look for future strategies for mitigating risk during an inverted disaster. Children receiving special educational services present a unique case. By examining the differences experienced by these children, we can reimagine education during an inverted disaster and improve outcomes for education and family wellbeing.

## CHAPTER 3

### METHODOLOGY

COVID-19, as an inverted disaster, presented many challenges to the continued delivery of education, that in turn impacted the experiences, outcomes, and support strategies of students and families. The aim of this study is to examine the challenges faced by children with disabilities and their families as they experienced changes in schooling during the COVID-19 pandemic and to understand the ways parents mitigated these challenges. This study examines these issues through survey data, in-depth qualitative interviews, and social network analysis with parents of K-8 grade children, highlighting differences between students with and without disabilities in Northern Colorado.

My research questions are as follows:

1. How was education altered during the pandemic?
  - a. How did the unique features of the pandemic influence the planning, preparedness, and response of schools to the disaster?
  - b. How did this response alter educational access and experiences for students with disabilities and their families?
2. How did shifts in education differentially impact students with disabilities and their parents?
  - a. What educational, physical, psychological, and socio-emotional impacts were experienced by children with disabilities?
  - b. What specific challenges did parents face?
  - c. How did these challenges impact the mental health of parents?

- d. What other factors were related to mental health outcomes for parents?
3. How did parents mitigate the impacts of school closures during the pandemic, despite the unique challenges posed by the disaster?
- a. How did parents access their social networks?
  - b. What forms of social capital were shared?
  - c. How did social network characteristics impact the mental health of parents?

In this chapter, I begin by describing the rationalization for the methodology employed to complete this study. I then explain how the pilot study was conducted and how this process led to the final research methods for the study, including the theoretical sampling strategy that was employed and recruitment methods. Next, I will describe the data collection methods in detail. Each method was chosen to answer specific research questions. Finally, the data analysis for each data is described.

### **Study Design**

To accomplish my research aims and objectives, I used a mixed-methods approach to the study, drawing on a variety of methods that best answered my research questions. My choice of methods involved a process of mapping research goals onto questions and then devising methods that most appropriately corresponded with the purpose and direction of each goal (Luker 2008; Ravitch and Carl 2016). Through this process, it became clear that a mixed-methods approach was necessary. This project relied on both quantitative and qualitative methods to verify findings (Luker 2008), gain depth and breadth of data (Ravitch and Carl 2016), triangulate data, and integrate the strengths and weaknesses of various methods (Small 2011).

To meet these ends, I conducted three phases of data collection with parents of K-8 grade students. First, interviews were conducted with a pilot sample to gain clarity of study design, recruitment and sampling strategies, and data collection protocols. Pilot data was collected between fall 2020 and spring 2021.

Second, I conducted surveys, interviews, and social network analysis with parents in Larimer County and Weld County, Colorado, between fall 2021 and spring 2022. Survey data correlated with research questions 2c, 2d, and 3c. In-depth qualitative interviews were conducted with a subsample of parents who responded to the social survey and increased my depth of understanding of the lived experiences of students and their families (Weiss 1994). Interview data answered research questions 1a, 1b, 2a, and 2b. Interviews produced depth of insight (Calarco 2011), while quantitative survey results were used to validate qualitative findings (Dressler and Oths 2015). Social network analysis was also conducted with a subsample of interview participants to map the social support networks of each participant and identify how networks influenced mental health outcomes during the pandemic. This data answered research questions 3a, 3b, and 3c.

The site of data collection in phase two was chosen due to my familiarity with school policies in the three largest school districts in this region of Northern Colorado, as well as access to parents, educators, and schools. These districts also utilize a school choice model, allowing parents to choose from a variety of public and charter schools in the district. This variability increased the breadth of experiences I was able to gather in one location that would be present to varying degrees across the country.

Third, my final phase of data collection occurred in spring 2023. Additional survey participants were recruited online to increase sample size and allow for analysis to identify how the mental health of parents was impacted by educational and demographic factors. Due to using network sampling methods, participants were more widespread throughout the country, however, this sample was not nationally representative. Allowing participants from a wider geographical area to participate added bias to the survey data, however, I found that parents across locations had similar experiences in terms of schooling practices, uncertainty and changes in learning modalities, access to education, and impacts. Widening the data collection time period also allowed me to understand how ongoing changes in education during the pandemic impacted families.

### **Pilot Study**

I conducted a pilot study using a purposive sample of parents and/or caregivers and educators of children receiving special education services. An initial set of participants were recruited from a convenience sample of parents and teachers. Additional participants were recruited using respondent driven sampling as participants suggested others in their network who would like to participate in the study. Using this strategy, ten parents/caregivers and five educators participated in the initial pilot interviews.

The pilot study sample included six mothers, one foster mother, one grandmother, one caregiver, and one nanny. The children represented ranged in age from 5-12 years old and were in preK-6<sup>th</sup> grade. All but one of the families had at least one parent working from home during the pandemic. These children also presented a range of learning and developmental disabilities and received a range of special education services. Educators in the pilot sample included two

special education teachers, two paraprofessionals, and one school administrator. The educators in this sample also worked with a wide variety of students ranging from mild to severe needs.

Qualitative in-depth interviews were conducted with participants via video conferencing. These interviews were recorded, transcribed, and analyzed. This process provided invaluable data regarding the educational delivery methods being used during the pandemic, the impact of these methods on students with disabilities and their families, and the necessity of accommodations that fit the needs of the student. Following this process, I revised my sampling strategy, recruitment procedures, interview and survey protocols, and interviewing process to better capture desired data and answer my research questions.

Pilot interviews were helpful in designing a theoretical sampling strategy based on families as the unit of analysis. A theoretical sampling strategy (Charmaz 2014) was used to ensure that the sample included families that differ across 6 key differences: 1) children that require special education accommodations, 2) political climate of the community, 3) consistency of schooling experienced by students, 4) presence of at-home caregiver or parent working from home, 5) racial diversity, and 6) socioeconomic diversity. This strategy guided early interview sampling and influenced changes in recruitment strategies to locate participants in each demographic category. As interview data was collected and analyzed, this theoretical sampling strategy evolved as new insights emerged (Charmaz 2014) regarding conditions that affected children and families.

### **Study Participants**

To be included in this study a participant had to be a parent of at least one child in elementary or middle school (K-8 grade) and their child must have attended either a public

neighborhood school or public charter school during the spring of 2020. Teachers were not recruited for the study, however, eight of the parents interviewed were also employed as educators. They provided additional insights and observations from their work with students. The geographical location of the study initially focused on interviewing parents in Northern Colorado, specifically within Larimer and Weld counties. However, later online survey recruitment led to a wider geographic range of participants across the United States.

Younger children in grades K-8 became the focus of this study. This decision was due to insight from pilot interviews that identified these children as having greater needs for adult supervision and educational guidance than older students. To understand the differences for students with disabilities, I intentionally included households with students receiving special education services (50.00%) and students who do not require these services (50.00%). Many families have children in both categories. I also included families who have children identified as gifted and talented (18.18%). I intentionally sampled families that do not have children with special needs to ensure variance by family. See Table 3.1 for breakdown of child demographics.

Preliminary analysis found that local political climate impacted the public health guidance in county and school policies. Counties on opposite ends of the political spectrum enacted different levels of local guidance and had distinct case rates of COVID-19. Sampling families from politically divergent counties provided diversity in terms of how local schools and thus families were impacted by public health restrictions and specific guidance. These contextual factors impacted family decision-making as some parents in counties with fewer public health restrictions did not feel safe sending their kids to school. Because political climate impacted parent decision-making, I intentionally sampled families from both dominantly

democratic counties (44.83%) and dominantly republican counties (55.17%), which enacted different levels of public health restrictions and guidance. See Table 3.2 for breakdown of household demographics.

Table 3.1. Child Demographics

	Interview n=39	Survey n=86	Total n=125
<b>Disability by Children</b>			
Children with Disability	36	47	83
Children without Disability	46	119	165
<b>Type of Disability</b>			
Autism Spectrum Disorder	5	11	16
Developmental Delay	3	3	6
Hearing Impairment, Deafness	1	0	1
Intellectual Disability	5	3	8
Orthopedic Impairment	2	2	4
Other Health Impaired	14	25	39
Serious Emotional Disability	3	9	12
Specific Learning Disability	9	12	21
Speech or Language Impairment	6	4	10
Traumatic Brain Injury	1	0	1
Multiple Disabilities	11	15	26
<b>Educational Categories</b>			
IEP or 504	29	54	83
Gifted/Talented	7	23	30
<b>School Type</b>			
Charter	5	8	13
Private	4	16	20
Public	29	65	94
Mixed	5	6	11
<b>Grade Categories 20/21</b>			
PreK	7	29	36
K-2	24	48	72
3-5	26	24	50
6-8	12	45	57
9-12	13	20	33

Families were also affected by the consistency of schooling during the pandemic. While some school districts were consistent in providing one form of education throughout the school

year, others vacillated between multiple phases of instruction. Families had to adapt to this uncertainty and make their own adjustments accordingly. To account for these differences, I intentionally sampled families from a variety of schools, school districts, types of school (public, charter, private), and schooling strategies (in-person, virtual, hybrid, homeschool). Differences in consistency often fell across school district lines, and differences between public (75.20%), charter (10.40%), and private (16.00%) schools. Some families chose to opt out of the traditional schooling plan and use alternative methods for educating their children. I interviewed families that chose all-virtual schools and who educated their children in pandemic pods.

Table 3.2. Household Demographics

	Interview n=39	Survey n=86	Total n=125
<b>Number of Parents in Home</b>			
Single Parent	9	13	22
Dual Parent	30	58	88
<b>Work Status</b>			
Working from Home	20	33	53
Leave Home for Work	11	21	32
<b>Number of School Children</b>			
1	7	38	45
2	20	25	45
3	9	18	27
4+	3	5	8
<b>Household Yearly Income</b>			
0-24	6	2	8
25-49	5	12	17
50-74	6	16	22
75-99	10	13	23
100-149	7	16	23
150+	5	7	12
<b>Disability by Household</b>			
with Disability	28	34	62
without Disability	11	51	62

Parenting work arrangements also had an impact on experiences. As workplaces shut down during the spring of 2020, many parents were required to work from home as they also supervised their child's learning. Other parents are essential workers and were required to go to work outside of the home during the pandemic. A third group of parents were unemployed. My initial sampling strategy included families from each of these groups. However, in recruiting participants, most families (62.35%) had at least one parent at home during this period. This was due to a variety of conditions, including work-from-home policies (51.51%), work shutdowns (6.06%), unemployment (9.09%), disability (3.03%), student status (3.03%), or parents who chose to be stay-at-home parents (12.12%).

Finally, family demographic factors were taken into account as race, gender, and class all have varying impacts on experiences. As I included families in my study, I sought racial diversity, with a goal of 25% being non-white (reflective of the demographics in the state of Colorado). White families accounted for 78.90% and nonwhite families made up 21.10% of the final sample. However, nonwhite families made up a larger percentage of the interview sample (27.30%). In terms of class diversity, my early sample was biased towards middle- and upper-class families. This was due to my recruitment strategy which relied on respondent-driven sampling. As this bias became clear, I found ways to recruit families from lower income neighborhoods, thus increasing the socioeconomic diversity of my sample. In the final sample, 23.81% of respondents were of lower income. The gender diversity of children occurred naturally through the sampling process. However, parents who participated were primarily mothers (96.36%), with only four fathers (3.64%) participating. See Table 3.3 for breakdown of respondent demographics.

Table 3.3. Parent (Respondent) Demographics

	Interview n=39	Survey n=86	Total n=125
<b>Gender</b>			
Female	37	69	106
Male	2	2	4
<b>Race/Ethnicity</b>			
White	28	58	86
Hispanic	5	8	13
Black	4	3	7
Other	2	1	3
<b>Age</b>			
18-24	1	0	1
25-34	7	12	19
35-44	25	39	64
45-54	6	20	26
<b>Political Party</b>			
Democrat	15	38	53
Independent	8	23	31
Republican	5	17	22
<b>County</b>			
Larimer County, CO	28	11	39
Weld County, CO	5	3	8
Other	6	54	60

## Recruitment

Recruitment for this study included a variety of strategies. Initially, parents were recruited for participation at family-friendly locations, such as schools, parks, and pools. I also posted announcements about the study via online parenting groups on social media that were based in the study location. Parenting groups dedicated to children with disabilities were targeted to increase the representation of this population. Recruitment materials included a description of the study, a request for participation from qualifying parents, and an offer for a \$10 gift card as compensation. Contact information and an online link for scheduling an interview were also listed.

Recruitment also included respondent-driven sampling. Participants who participated were asked to recommend additional participants that met certain criteria for inclusion as needed. Some participants provided me with contact information for potential participants, while others reached out to their own contacts on social media to advertise this study.

When collecting research data, saturation is reached at the point when new concepts cease to emerge from the data collection process (Guest, Bunce, and Johnson 2006). By the spring of 2022, I had reached saturation, yet it was clear that the sample was lacking racial and socioeconomic diversity. These demographic groups were necessary to capture a more well-rounded understanding of student and family experiences across a spectrum of families. To correct for the lack of diversity in my sample, I developed a flyer advertising the study and posted them in locations with greater exposure to lower income families and racial and ethnic minorities. I increased the incentive for lower-income parents to participate in the study to \$50 to compensate for their assistance and time. This strategy increased participation from these harder to reach demographic groups.

Recruitment materials included a link to an online scheduling program. Participants were able to use the link to schedule an interview based on their availability. Once a parent scheduled an interview, they were sent an invitation and link to an online, video meeting for the interview. Reminders were sent out to participants via email and text 24 hours and 1 hour prior to the scheduled meeting. Those who signed up to participate in an interview also completed a social survey and social network survey as part of the interview process.

Finally, a link to the social survey was posted on social media to increase sample size and diversity, using similar methods as reported above. Online parenting groups that include

children in the study age group and children with disabilities were targeted in this stage of recruitment. Respondents to the survey were asked to repost the link to the questionnaire and share with their contacts. This recruitment strategy increased the sample size from 39 respondents to 125. This additional survey sample was more geographically and politically diverse than the initial interview sample.

## **Data Collection**

### ***Social Survey***

The social survey for this study focused on the mental health of parents during COVID-19 school closures. The purpose of this survey was to collect quantitative data regarding parental mental health strain during the pandemic and school closures. The survey included indices for perceived stress, worry, and wellbeing. In addition, quantified educational experiences and demographic data on students and their families were collected.

The survey was completed either online by the participant or was completed at the same time as the in-person interview. The sample for the survey included the interview participants who were parents of school age children. Participants who were caregivers, such as nannies or pod teachers, were excluded from the survey sample. Thirty-two parents in the interview sample completed the survey. By surveying my interview participants, I was able to gain quantitative data, set within the context of my qualitative interview data, and triangulate my findings. Survey questions were read to the participants and their answers were recorded on paper. Following each interview, I entered the recorded data into a Qualtrics survey to streamline data management and analysis. Paper surveys were then destroyed.

In addition to conducting the survey with interview participants, a link to the Qualtrics survey was also posted on social media, as noted previously. An additional 93 parents completed the online survey, for a total of 125 parents.

The survey was divided into three parts. For the full survey schedule, see Appendix B.

Part 1 involved questions regarding the parent's children and their schooling experiences. These questions included how many children were in the home, their grades in school, relationship to the child, special education status (whether child is on an Individualized Education Plan, 504 Accommodations Plan, READ plan, Individual Health Plan, or receives any other special education services), services provided by the school, whether these services were provided during the pandemic, whether learning goals were met, type of school child attended prior to and during the pandemic (public neighborhood school, public school of choice, private school, charter school), types of learning modalities experienced (in-person, at-home, virtual, hybrid, homeschooling, pod), if the child changed schools during the pandemic, and the name of the school district.

Part 2 of the survey included Likert scale questions pertaining to parents' perceived stress, wellbeing, worry, and happiness. The first set of questions were devised from the Perceived Stress Scale (Cohen, Kamarck, and Mermelstein 1983), a classic stress assessment instrument that assesses feelings and perceived stress over the past month. I revised this instrument to focus specifically on the period in which the parents' child was experiencing at-home learning during the pandemic. Parents were asked to rate their agreement with a list of statements, on a scale from 1 to 5, 1 being never and 5 being all the time. Statements included: how often were you... upset because of something that happened unexpectedly, felt unable to

control the important things in your life, felt nervous or stressed, felt confident about your ability to handle your personal problems, felt things were going your way, could not cope with all of the things you had to do, felt unable to control irritations in your life, felt on top of things, felt angry because of things that happened outside of your control, felt difficulties were piling up so high you could not overcome them.

The next set of questions examined perceived wellbeing of the parent. These questions again asked the parent to rate each statement, thinking about the time during the pandemic and at-home learning, on a scale from 1 to 5, with 1 being never and 5 being all the time. Statements were drawn from the Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) (Tennant et al. 2007). This scale included the following: feeling optimistic about the future, feeling useful, feeling relaxed, interested in other people, having energy to spare, dealing with problems well, thinking clearly, feeling good about myself, feeling close to other people, feeling confident, interested in new things, and feeling cheerful.

The third set of questions asked parents to rate their agreement, using the same scale as above, on how often they were concerned or worried about the following issues: their child's education, health issues, finances, safety, mental health of the child, and their own mental health. Finally, I asked parents to rate their general level of happiness, on a scale from 1 to 7, where 1 means they are not a very happy person and 7 means they are a very happy person. I then asked whether their happiness level changed during the pandemic with the options of decreased a lot, decreased somewhat, stayed the same, increased somewhat, or increased a lot.

Part 3 of the social survey focused on parent and household demographics.

Demographics included participant's gender, race, ethnicity, age, highest level of education, marital status, employment status, work from home status, yearly household income, whether they received unemployment benefits or lost housing during the pandemic, political affiliation, and zip code.

### ***In-Depth Interviews***

In addition to the social survey, I conducted in-depth interviews. The focus of these interviews was on how students with disabilities and their families experienced education during the pandemic and how these changes impacted their education, wellbeing, and family life.

To understand the experiences of youth and families during the COVID-19 pandemic, I interviewed 39 parents (or caregivers) of children in K-8 grade. The parents scheduled interviews themselves using a scheduling web link. Interviews took place over a video-conferencing application, ZOOM (Yuan 2013), and were recorded for transcription purposes. This data collection strategy was best for conducting research during a global pandemic. Due to social distancing guidelines, fluctuating virus infection rates, and increased health risks, I chose to conduct interviews virtually to increase participation and comfort with the process and limit the risk of exposure to the virus for my participants and myself. This method was also useful in increasing convenience for parents to participate, decreasing the cost of research, and providing a streamlined strategy for data management, recording, and transcribing interview data (Archibald et al. 2019; Gray et al. 2020; Oliffe et al. 2021).

Interviews began with introductions. I read over the consent forms with each participant, providing them with the purpose and overview of the study, the risks and benefits, terms of confidentiality and data preservation, and compensation. Participants asked questions and brought up any concerns they had regarding the study. Once parents were comfortable and ready to begin the interview, I began recording and asked for permission to conduct and record the interview. Participants provided their verbal consent to continue the interview process.

During the interview, I asked in-depth, open-ended questions. These questions focused on educational delivery during the pandemic, personal experiences, and perceived outcomes for students and their families. I asked parents to describe the greatest challenges their families faced during school building shutdowns and transitions back to in-person learning. I also asked how they coped with these challenges. While I relied on an interview protocol, questions were flexible and evolved throughout the process as new insights emerged. Follow-up and probing questions were also asked as needed. See Appendix B for interview protocol.

### ***Social Network Survey***

The last phase of data collection was a social network survey that was implemented with 29 of the parents who completed an interview. Caregivers and pilot study participants were excluded from the social network survey. These data show how parents accessed needed resources during COVID-19, differences in social networks for families of children with disabilities, and how these support networks impacted the wellbeing of parents and children.

The social network survey was in the form of a resource generator. I first created a list of resources, context specific to the pandemic, and based off my observations and pilot interview data. I then categorized these resources into 5 categories, material, instrumental, financial,

informational, and social forms of support. During the survey, I reviewed each category with participants, providing examples for each type. I then asked the participant to name up to 5 people who helped them the most during the pandemic and 5 people who they helped the most. Only first names were collected for this survey. No last names were collected. After generating this list of people in their social networks, I asked participants to identify their relationship with each person listed and to describe the ways they helped each other during the pandemic. I then asked demographic questions regarding each person included in the network. These variables included gender, age, employment status, parental status, how long they knew this person (in years), and how far away the person lives from them (in time). To further map out the ego network of the participant, I asked whether the people listed in their resource networks had relationships with each other (such as friends, neighbors, family members, etc.).

See the Appendix B for the social network survey protocol.

## **Data Analysis**

### ***Quantitative Analysis: Social Survey Data***

Social survey data was cleaned and analyzed using Microsoft Excel (Microsoft Corporation 2018) and R (R Core Team 2021). Likert scale items for stress, wellbeing, and worry were summed and averaged to create a final score for each scale. In the stress scale, items 4, 5, and 8 were reverse coded to indicate directionality of the measure. Next, a strain composite score was created by summing the average scores for stress, wellbeing, and worry. In creating this composite score, the wellbeing averages were reverse coded, thus, higher scores indicate lower ratings of wellbeing. The final strain score indicates how much strain was experienced

during the pandemic on an individual's mental health and wellbeing. Higher scores indicate more strain on the individual than lower scores.

Variables were developed for further analysis. These included a variable for IEP or Gifted and Talented status, total number of special education services received, total number of learning formats child experienced, and grade level categorizations.

Descriptive statistics were analyzed for all continuous and categorical variables, including frequency, mean, and standard deviation. Mental health indicators and summary scores were analyzed using comparative methods. Group comparisons were made between families with and without children with disabilities, single and dual parent households, racial demographic groups, socioeconomic groups, and work from home status. For each mental health indicator, means and percentages of high scores (those with ratings of 4-5) were calculated for comparison by demographic group. T-tests were conducted on differences between means. Chi-square analysis was conducted to compare differences in groups with high scores.

### ***Qualitative Analysis: Interview Coding***

Following each interview, I downloaded the video files from ZOOM, indexed each file, and saved them in a password protected file. These files were uploaded to otter.ai, an online transcription service, for initial transcription. Once the initial transcription was prepared, I listened to each interview and made any edits to the transcription document as needed. This step was essential to become immersed in the data and "hear" what was truly being said (Lofland et al. 2022). During this review process, I was able to think about each interview and gather my preliminary thoughts and reflections of the information shared by the participant. As

I listened and transcribed, I kept a memo for each interview. These memos included field notes and summaries of the topics covered during the interview. As new themes came to light, I included these emerging ideas as analytic notes (Lofland et al. 2022). These notes became a framework for my initial coding scheme during the coding stage of analysis and brought new insights to light as themes emerged in my data (Charmaz and Belgrave 2012).

Once transcriptions and memos were developed, I coded the data using MAXQDA (VERBI Software 2021), a qualitative data coding program. Coding of field notes and interview transcripts was used to organize and group data. This process was the link between the data and the meanings entailed. While themes emerged throughout the coding process, it was essentially an interpretive act and was based on the study's conceptual framework, the research goals, and interview questions (Saldaña 2016). Throughout the process of coding, I found patterns of similarity, difference, frequency, sequence, correspondence, and causation that allowed me to capture the 'essential elements of the research story that...facilitate the development of categories and thus analysis of their connections' (Saldaña 2016:8).

I conducted preliminary analysis using open coding. This style is recommended for beginning stages of inductive research in the initial phase of coding. It allowed me, as the researcher, to engage with the text, creating as many codes as possible until no new themes emerge (Lofland et al. 2022). During open coding, I focused on the meanings, themes, connections, and contrasts within the data (Emerson, Fretz, and Shaw 2011). This method is also advised as a first step to coding our data (Saldaña 2016). I began this process by reviewing my research goals and questions. I kept these next to me as I worked, as a constant reminder of the purpose of my analysis (Saldaña 2016). I also created a list of categories to refer to. These

overarching themes included impacts, causes, social vulnerability, coping strategies, mitigation, and resilience.

As I transitioned to more focused coding, I reminded myself of these categories, asking myself whether a segment of the interview was a representation of these variables. I continued to allow new categories to emerge, as themes became evident. I used descriptive coding, summarizing words and phrases into a general idea or theme, defined as “abstract (often fuzzy) concepts that link not only expressions found in texts but also expressions found in images, sounds, and objects” (Dressler and Oths 2015:87). I also relied on in-vivo coding, to gather the participant’s own interpretations and meanings within their social context (Saldaña 2016).

Following these initial and focused stages of coding, I analyzed my coding scheme. I analyzed each code and grouped them into themes and subthemes, developed overarching categories, merged redundant codes, refined codes and the coding hierarchy (Saldaña 2016). This process was aided by code memos that I wrote as I worked to better understand the meanings of my codes and refine them (Lofland et al. 2022). My coding scheme went through seven iterations before taking its final form. Final categories included pandemic/educational factors (modalities, teacher ability, expectations, health and safety, and uncertainty), impacts on special education, mediating factors, benefits of virtual education to students, families, and teachers/schools, impacts on students (educational, psychological, physical), impacts on family wellbeing (logistical factors, conflict, roles, services/resources, decision making, physical health, and mental health), systems of support, coping mechanisms, and trust. As I refined these categories, I continued to assess and refine my previous codes as needed.

Although I have explained my data collection and analysis as a step-by-step process, qualitative analysis is reflexive, inductive, recursive, and systematic. I began transcribing and coding my data while still in the midst of data collection. This was important for me to begin thinking analytically about my process and my data (Lofland et al. 2022). It also required that I constantly consider my questions, my data, and my coding choices, and my analysis through the process of analytic memo writing (Ravitch and Carl 2016; Saldaña 2016). This allowed for an essential flexibility of research goals and questions by way of regular reflection. Using an inductive process allowed me to learn from my data and modify the study, as necessary. This process required reflection on the observations considering theory, to further develop theory and remain focused on the purpose and the 'so what?' of the project (Lareau 1996). A back and forth of data collection, transcribing, memo writing, coding, revising, and discussion with my advisor occurred throughout this analytic process.

### ***Social Network Analysis***

Analysis of the social network data and creation of social network diagrams was conducted through the open-source statistical program, R (R Core Team 2021), using the following packages: dplyr (Wickham et al. 2022), egor (Krentz et al. 2022), ggplot2 (Wickham 2016), ggraph (Pedersen 2021), grDevices (R Core Team 2021), igraph (Csardi and Nepusz 2006), MASS (Venables and Ripley 2002), ordinal (Christensen 2022), tibble (Müller and Wickham 2021), and tidyverse (Wickham 2019). Data was formatted and imported into R using the egor package. Alter data was cleaned to remove null alters. Composite variables were developed by summing the total number of ties between ego and alter, the total number of

resources received by ego from alter, and the total number of resources shared by ego with alter.

For each social network, analysis was run for three groups of ties, including all ties in the network, all resources received, and all resources shared with alters. For each tie type, social network statistics were calculated, including network size, density, degree, betweenness, centrality, and transitivity. Analysis also included relationship roles for each alter, and summary statistics for alter gender, age, employment, parental status, length of relationship (time), and geographic distance between ego and alter.

A composite score for network strength was developed. To create this measure, each network statistic was given a score of 0 if the score was above the median for that statistic and a score of 1 if the score was below the median. These scores were then added together to create a composite network strength score. Eight variables were included in the final measure. Strength scores of 4 or more were considered weak, while scores below 4 were considered strong. This variable was then dichotomized to indicate strong and weak networks.

For each social network in the study, a network diagram was developed using R. Social network diagrams indicated strength of ties (tie width) and alter relationship roles (node color). Ties between alters were indicated by a single black edge, as these ties were not weighted in the analysis. While the initial social network maps were created in R for analysis, later maps were developed using UCInet (Borgatti, Everett, and Freeman 2002) and Visone (Brandes and Wagner 2004). These maps are presented in Chapter 8.

Analysis included a comparison of ego networks, based on differences in ego and alter characteristics and network structure and addressed how different types of egos accessed their

social capital through their networks (Guiffre 2013). In addition to the analysis of network composition and social capital, the mental health of parents was also examined in correlation with social network structure. Due to the limited social network sample, Fisher's exact test was used to compare stress, wellbeing, worry, and overall strain scores by strength of social network. Social network structures and statistics were analyzed in relation to their strain scores to assess how mental health and wellbeing were influenced by social support networks during the pandemic.

## **Conclusion**

The methods for this study were grounded in the research aims, objectives, and questions. I aimed to ascertain the experiences and consequences of education as it was delivered during the COVID-19 pandemic and to identify the disparities experienced by children with disabilities and their families. I also sought to understand how families used their coping mechanisms and social support systems to develop resilience during the pandemic. This leads to a final aim, to develop improved planning and policy recommendations in the areas of disaster/pandemic planning for education, children with disabilities, and families. With these aims in mind, I homed in on three main research questions:

- 1) How was education altered during the pandemic?
- 2) How did shifts in education differentially impact students with disabilities and their parents?
- 3) How did parents mitigate the impacts of school closures during the pandemic, despite the unique challenges posed by the disaster?

These questions were answered using a pragmatic, mixed-methods approach. I relied on qualitative in-depth interviews to answer my first research question, providing depth of insight into the lived experiences of parents and their children, perspectives on educational delivery, and perceived outcomes their children experienced. These results are shared in Chapter 4. Interviews also aided in answering my second research question, focused on the differential impacts to students with disabilities and their parents. These included physical, educational, developmental, and socio-emotional impacts on children. These impacts are presented in Chapter 5. Parents also shared their own challenges and struggles with role conflict, decision making, family conflict, and mental health. These challenges are described in Chapter 6.

Quantitative data in the form of a social survey answered my second research question in terms of the impacts on parental mental health. As parents discussed their struggles with mental health during interviews, I was able to triangulate these findings using the mental health scales for stress, wellbeing, and worry included in the survey. These data were then analyzed and compared based on family disability status, household income, race, number of parents in the home, and work status. Results from this analysis are presented in Chapter 7.

Social network data answered my third research question. These data identified how social support systems aided in building resilience. By analyzing social network data and the resources shared among people in their networks, I identified the types of networks created during this disaster and how they substituted for traditional forms of support in a time of social isolation. To further examine the impacts these social networks had on mental health, I compared results from the mental health data with key social network characteristics to determine the correlation between these factors. These results are presented in Chapter 8.

Using the data collected by methods of in-depth interviews, social surveys, and social network analysis, I contribute to the current literature on disaster typology by proposing a new concept, the inverted disaster, in which the infrastructure remains intact, yet social order has broken down, and the concept of family as a system of support is at risk. This new concept adds to our understanding of the disasters we face, including pandemics and climate change, and suggests new ways of preparing, mitigating, and recovering. It also provides a heightened understanding of the social vulnerability of students with disabilities and their families during a disaster, specifically within the pandemic context.

The last aim of this research study is to provide policy recommendations that will increase educational equity for children with disabilities, improve social policy for family wellbeing, and develop best practices for schools as they create pandemic and disaster preparation, mitigation, and recovery plans. These recommendations place the difficulties of the pandemic within the context of educational disparities that continue to plague our schools and place children at risk and at an educational disadvantage. By engaging with the data and the existing literature in family studies, educational equity, and disasters, we can develop better outcomes for these students and their families.

Table 3.4 describes the 39 families that participated in the interview process for this study. The names of children are pseudonyms to protect their identity and that of their parents and caregivers. In addition, only a general description of disabilities was included in the table to further protect children from identification. In the following chapters, parents will be referred to by the names of their child or children.

Table 3.4. Child Pseudonyms and Characteristics for Interview Sample

Children	Sex	Race	Grade (20/21)	Total Kids	Adult Home	School Type	Disability Type
Grace & Reggie	F; M	H	5th; 8th	2	Yes	private; public	SLD; OHI
Angie	F	W	K	1	Yes	public	OHI
Kaitlyn & Tanya	F; F	W	K; 2nd	2	Yes	public	ID; ID
Judy	F	W	Pre-K	2	Yes	public	SLD, OHI
Patrick & Steven	M; M	W	3 <sup>rd</sup> ; 4th	2	Yes	public	OHI; OHI
Charlie	M	O	Pre-K	4	No	public	SLI, OHI, DD
Breanna	F	W	2nd	1	Yes	public	OI, OHI
Sam & Julie	M; F	W	1 <sup>st</sup> ; 8th	2	Yes	public; charter	
Danny	M	W	2nd	2	Yes	public	
Eve & Bria	F; F	B	K; 2nd	2	Yes	public	GT
Joey & Melanie	M; F	W; H	2 <sup>nd</sup> ; 7th	5	Yes	private; public	SLD; OHI
Luke	M	H	2nd	1	Yes	charter	SLD
Roy & Vicky	F; M	W	2 <sup>nd</sup> ; 4th	2	Yes	public	GT
Elisa	F	H	K	3	Yes	private	ID
Billy	M	W	1st	2	Yes	public	ASD, OHI
Jimmy & Nat	M; M	B	4 <sup>th</sup> ; 7th	3	Yes	public	SLD, OHI; ASD
Vanessa	F	W	5th	3	Yes	public	DD, ID
Patty	F	W	6th	3	Yes	public	ID, SED, GT
Todd	M	W	1st	1	Yes	public	ASD, OHI, SED
Andrew & Carla	M; F	H	1 <sup>st</sup> ; 5th	6	No	charter	SLI, SLD; GT
Lori	F	W	4th	2	Yes	public	DD, ID
Stan & Lina	M; F	W	1 <sup>st</sup> ; 5th	2	Yes	public	
Alex	M	W	2nd	2	Yes	public	SLD
Spencer	M	O	3rd	3	Yes	public	OI, ASD, SLD
Alice	F	W	7th	1	Yes	public	
Shannon & Alfie	F; M	W	5 <sup>th</sup> ; 8th	2	Yes	public	OHI
James & Violet	M; F	W	1 <sup>st</sup> ; 5th	2	Yes	public	SLI, OHI; OHI
Brian & Megan	M; F	W	4 <sup>th</sup> ; 7th	2	No	public	GT
Liam & Olive	M; F	W	Pre-K; K	2	Yes	public	
Blake & Joy	M; F	W	6th; 8th	2	Yes	virtual	OHI
Alan	M	H	1st	2	No	public	SLD
Obi & Eli	M; M	B	2 <sup>nd</sup> ; 4th	3	Yes	public; private	ASD, SLI; OHI
Veronica	F	W	7th	2	No	charter	TBI
Benson	M	W	K	6	Yes	public	D/HH, SLI
Emma & Rosalie	F; F	W	Pre-K; 5th	2	Yes	public	
Lillian	F	H	2nd	1	Yes	charter	
Natalie	F	W	1st	1	No	public	
Kelli	F	W	Pre-K	3	Yes	public	SLI
Trudy	F	W	3rd	1	Yes	public	SED, GT

\* Race: W = White, non-Hispanic; B = Black or African American; H = Hispanic; O = Other Race

\* Disability: ASD = Autism Spectrum Disorder; DD = Developmental Disability; D/HH = Deaf or Hearing Impairment; OHI = Other Health Impairment; SLI = Speech or Language Impairment; TBI = Traumatic Brain Injury; SED = Serious Emotional Disorder; SLD = Serious Learning Disability; ID = Intellectual Disability; OI = Orthopedic Impairment; GT = Gifted/Talented

## CHAPTER 4

### EDUCATIONAL PRACTICES: STUDENT AND FAMILY EXPERIENCES

During March 2020, schools around the country transitioned to at-home and virtual forms of learning to accommodate COVID-19 stay-at-home orders. For students in this study, this process occurred immediately prior to or during the planned spring break. Following this transition, students experienced a variety of teaching modalities, including at-home, virtual, hybrid, and in-person learning. Some families opted out of the planned modality and instead chose homeschooling, pandemic learning pods, or all-virtual school options.

The purpose of this study is to understand how educational processes during the pandemic impacted K-8 grade students with disabilities and their families, and how families mitigated these challenges. The following research questions guide this chapter:

1. How was education altered during the pandemic?
  - a. How did the unique features of the pandemic influence the planning, preparedness, and response of schools to the disaster?
  - b. How did this response alter educational access and experiences for students with disabilities and their families?

In this chapter, I focus on the initial experiences of children and their families during at-home and virtual schooling during the spring and fall of 2020 and during the return to in-person learning during the 20/21 and 21/22 school years.

Students experienced a shock as their school day routine abruptly ended and they lost the in-person support from teachers, school counselors, therapists, and staff in March 2020. I

will first address this transition process and the chaotic uncertainty that ensued. Next, I discuss the lack of preparedness, clear guidelines, appropriate expectations, and engagement affecting students. I will also address the transition to in-person modalities and increased frequency of quarantine that occurred in fall 2020.

The results presented in this chapter will outline the inequity in access to education experienced by students with individualized education plans (IEPs), 504 plans, or individualized health plans (IHPs). Drawing on interview data, I will show that students with disabilities had more difficulty accessing new learning modalities, receiving consistent special education services, obtaining equitable modifications and accommodations, and integrating with their general education peers.

After describing the state of education during the pandemic and the experiences of students with disabilities, I will turn to the key factors impacting family life. These include issues related to whether parents worked from home or outside of the home, logistical issues such as coordinating parent and child schedules, managing space and resources, and navigating technology in the home. Some parents also experienced unemployment, financial worry, and housing issues. In this chapter, I present evidence to show that as parents worked and maintained the home and school space, they struggled with navigating the pandemic, the varied needs of their children, and the lack of institutional and social support.

### **March 2020: Chaos and Uncertainty**

The World Health Organization declared COVID-19, the novel coronavirus, a pandemic on March 11, 2020. On March 13, the Trump Administration declared a nationwide emergency. These declarations sent the public school system, along with the economy, workplaces,

government, and health care, into a tailspin. Local and state governments issued stay-at-home and quarantine orders for all non-essential workers. Overnight, most businesses and workplaces closed, sending their workers to work from home or to the unemployment lines.

While healthy children were expected to be relatively resilient to the virus and its effects, they were known to spread the virus to others. Keeping schools open was a risk to school employees, older populations, and those with underlying health conditions. Much was still unknown about the virus at the time, causing uncertainty and fear. Schools were forced to close their doors and shut out their students, teachers, and staff with little to no warning. Approximately 124,000 schools shut down across the United States, impacting over 55 million students (EW 2020; NCES 2020).

The first two cases of coronavirus were confirmed in the state of Colorado on March 5, 2020. The governor declared a state of emergency on March 10. Following this announcement, universities and school districts across the state announced their own closures. On March 18, the governor ordered all public and charter school buildings to close for 30 days and banned gatherings of more than 10 people. Soon after, all non-essential businesses were also ordered to close and on March 25, a state-wide lock-down was put into place (Hefty 2020).

Interview participants for this study resided in two northern counties in Colorado, Larimer County (3 school districts) and Weld County (12 school districts). Each school district in these neighboring counties took a different approach to their COVID-19 response. Poudre School District announced an extended spring break on March 13. This district in Larimer County advised parents to expect a period of at-home learning beginning on March 23. It was later announced on April 2, there would be no return-to-school that year. Thompson School

District, also in Larimer County announced school closures through March 27. In Weld County, most of the districts, including Greeley-Evans District 6 took this same approach, closing their doors until March 27. Weld RE-4 District closed their schools on March 16 through April 5, with no continued learning during that period of time (Kyle and Dance 2020).

For those in the interview sample, the declaration of the pandemic occurred only days prior to the yearly planned spring break for Northern Colorado schools. This was also true for most schools around the country. Initially, many school districts shut their doors just as the final day before the break was ending. For some students, families, and educators, there was at least some notice of the possibility of closures prior to the break, however, this was the exception and not the rule. Teachers in these schools hastily chose books and materials to send home with students on that last day. Children filled their backpacks with packets of work to complete and school supplies from their classrooms, should they need to continue school from home. Communication from schools announced the shutdown, or the possibility of one, and warned that spring break may be extended as schools made preparations.

The news of the shutdown was confusing, sudden, and without clear communication or guidance. Benson's kindergarten pod teacher was working as a kindergarten teacher in the spring of 2020. She experienced confusion during this time,

So, we had a week off for spring break. And then I think it was within the first three days that the superintendent released that [email]. The superintendent didn't actually even release in our district. 'You're not coming back after spring break,' but it was pretty much well known that it's probably not going to happen...I remember reaching out to my team and being like, what does this mean? And not really getting any guidance at all from anyone in the district of what does that look like...We weren't even sure if we were gonna be able to come back into the classrooms to gather our things, we had brought some things home, but we couldn't take everything.

Alex's mother overheard whispers of the shutdown while she was volunteering in her daughter's classroom. She had a hard time believing a school shutdown was on the horizon.

I hear someone say, 'the week after spring break we're gonna be doing some remote work. We're not sure what that looks like. We're giving our teachers time to put things together.' I remember hearing some of the teachers saying, 'I feel like this is the last time I'm going to see my kids this year.' And I remember thinking, 'dramatic. It's just spring break, lady, we're gonna be right back.' What's the big deal, you know? And then that was the last day my kids went to school for a year.

While some schools gave minimal advance notice to teachers and parents, other schools were less aware, prepared, and able to communicate with parents and staff regarding the school shutdowns. There was confusion during and following spring break, as parents were advised of closures without forewarning. This created chaos for families as they tried to get a clear sense of what was happening and how to respond. Parents struggled to explain the changes to their children, along with information about the virus, the need to quarantine, and deal with the rupture of children from important social relationships with teachers, therapists, family, and friends.

Grace and Reggie's mother reported that the switch to at-home learning was not announced until the end of spring break and the change was sudden and unexpected. The schools gave no forewarning of the transition. Her children were shocked and unprepared. It took a few weeks before they were able to obtain the school resources and supplies to continue school from home. This created uncertainty for the family, stress on herself and her children, and anxiety regarding her children's progress. She explained, "I think [the schools] were not prepared. Obviously, nobody was prepared for it." She later added, "I expected we were going to have to do a lot of teaching, and I was really nervous."

Natalie's mother had a similar experience. The school closure was not communicated to parents until spring break was ending. "They just didn't go back. They were trying to figure it out over spring break, and they couldn't. I'm pretty sure [the city] didn't formulate a plan or at least [the school] didn't formulate a plan over spring break." For children in schools that did not create a plan prior to the break, school ended abruptly and a long hiatus from learning occurred. Luke's mother recalled, "If I remember right, it was a couple of weeks where kind of just nothing was happening. It was just an absence of school." The lack of communication and planning added to the uncertainty parents and their children felt during the early weeks of the pandemic. As so many aspects of their lives were changing, they could not rely on the consistency and normality of their school routines.

Decisions about how long schools would be closed, how long the break would continue, or whether children would continue school from home were up in the air adding uncertainty and confusion to the situation. Educators and parents both clung to hopeful thinking that this experience would be short lived, a blip in an otherwise typical school year. Sam and Julie's mother was shocked along with her daughter,

I think more than anything, it was just a sense of disbelief. My daughter kept on thinking, 'Oh, well, after two weeks, we'll go back. Okay, it'll be a few more days.' I think more than anything, she was just really shocked that that was it. And that was a bit of an adjustment for her.

Once schools transitioned to at home learning, schools and districts did not provide sure answers about when children would return to school. Teachers and parents talked about it lasting a few days, a week, then another week. Districts announced closures for a week or two at a time, always giving hope that things might quickly return to normal. Elisa's mother shared how unclear communication and uncertainty affected Elisa and her two older siblings.

I felt a false sense of hope when they were saying school would go back in the spring. Finally, they just said the kids would remain home for the school year. I think in a way that made it harder to settle into remote learning for all of us too.

Stan and Lina's mother finally acknowledged the situation after a lack of clear communication from the school principal, "It took us a moment when we realized that this isn't ending anytime soon, because he [school administrator] kept saying two more weeks, two more weeks, two more weeks. And we're like, 'okay,' when we realized it wasn't ending."

The chaos and uncertainty described above was difficult for children to understand and for their parents to suddenly manage. This caused confusion and anxiety. Children did not have closure at the end of in-person schooling and had to adjust to the transition over time. Sam and Julie's mother described Julie as introverted. While she adjusted to the change, the shock was difficult for her. "She's not too sociable to begin with. Usually, she doesn't care if she sees people or not, but I think it was tough for her to not have that closure of the last year. Just the sense of disbelief."

While this period caused anxiety for many in this study, some parents and children embraced the change. Parents felt like they were on a long vacation and their children were excited to be home. Brian and Megan's mother explained this mentality, "I think the kids were super excited. I mean, it was weird, right? Because nobody knew anything at that point. But I think it was like having an extra week of spring break, essentially." Joey's mother, who has her own three children and two foster children, shared similar feelings,

I feel like they loved it. We're a very active family. My husband was home. So, it was like a really long vacation. We did a lot of camping, we went out to the lake, we were out doing things...We had a whole gang of kids in the neighborhood that just lived together. They were constantly playing and biking and in the backyards...The amount of toys that ended up in our backyard during the pandemic is crazy, and the activities; they were constantly doing stuff. So, they were very entertained.

Those who spoke positively about ‘the long vacation’ were married, white, and upper-middle class. These parents had the resources available to them to quarantine comfortably at home and had support from their partners. They took advantage of school closures and responded positively to the extended break from school and the time spent together as a family. For families with less support and resources, the lack of clarity in the early days of the school shutdowns and the following lack of preparedness affected their ability to cope with changes in home, school, and work life and settle into the new routine of at-home and virtual learning.

Schools were unprepared for an inverted disaster, such as the COVID-19 pandemic, to occur. While school administrators may have prepared regarding a traditional disaster, in which a community faces an episode of natural and physical destruction and a breakdown of infrastructure for a short duration of time, the pandemic presented a very different set of obstacles. School buildings and infrastructure were functioning, yet the risk of the virus led to state and local guidelines for quarantine and school closures for an undetermined length of time. Students were cut off from their traditional educational and social support systems. The education system was not prepared for these emerging challenges. While schools were expected to close their doors, a lack of guidelines at local, state, and federal levels for how to implement a school closure and how to continue education during a pandemic created confusion. Schools adjusted, without guidance, and improvised plans as they went along.

Teachers were unprepared for the transition to school building closures. They scrambled to put together plans for instruction, assignments, and socialization for their students. Danny’s father, a special education teacher, witnessed panic following the initial closures,

That Monday after spring break was a rude awakening. I mean, everyone was scrambling, trying to get a sense of what had just happened, and trying to set up shop for the remainder of the school year. It was like trying to find whatever in a dark room. I mean, everyone was kind of in the same boat. I hadn't even ever scheduled a video conferencing meeting at that point from ground level, I had never used any of the video conferencing platforms.

Benson's pod teacher tried to put together curriculum for her class of kindergartners after coming back from spring break,

When we ended up going back, we had a day of practice with our team, to get some things together and start sending stuff home, which was very interesting...We sat as a kindergarten team and we're like, okay, we're doing this basically, just very quickly, without a lot of planning.

Parents also expressed their frustration with the lack of preparation. Natalie's mother noted a lack preparation that translated into poor implementation,

They were gonna do Zoom meetings for class, and we had to show up at 9 am with our kids. And for a child in kindergarten, it was very challenging. They said that the teachers were going to be extremely involved in these Zoom classrooms and Google Classrooms. And instead of that there was just, in my opinion, a very poorly scripted daily plan, with very little resources for the families in order to accomplish things. Instead of hands-on activities, where it's very kinesthetic and intertwined with all of the learning directives, they're like, 'here's a workbook page'.

Blake and Joy's mother observed a difference in preparation between the two schools her children attended, "I had one kiddo who their school wasn't prepared, so nothing was happening. And the other was on spring break, and nothing was happening. And I was thinking, they're not ready for all these kids to be remote schooling."

The examples described above highlight how the characteristics of the inverted disaster influenced the experiences of students and parents. Due to the unknown time frame and spatial boundaries, and the invisible nature of the threat, school closures were sudden, unexpected, and unplanned for. Continued learning during an inverted disaster was not

prepared for and schools scrambled to devise solutions. Because there were no standards in place for schools to follow, even schools within the same district took different approaches to school closures, communication with parents and staff, and planning for continued learning. These factors added to the uncertainty parents experienced as they transitioned from the break into new learning environments.

### **Spring 2020: New Learning Modalities**

#### ***At-Home Learning***

After the initial shutdown period began, and fuzzy plans were put into place, a period of at-home learning took hold. This entailed schoolwork that was expected to be done from home, with little to no instruction from teachers. Work might be provided through packets of worksheets to be completed each week or included online assignments. Some teachers added video links to their online classrooms that provided instruction for the required assignments. In some cases, students also met with their teachers virtually for short check-ins, once or twice per day or week. This period of at-home learning was short lived for some but continued throughout the spring semester for others.

Alan's mother shared how this at-home learning took place for her two children, "It was so simple. They only had to meet with a teacher for 20 minutes. That was manageable...The teachers only wanted them to do 20 minutes of math, 20 minutes of reading. That was pretty much it."

Parents felt this style of teaching came with low expectations. This frustrated some parents. Brian and Megan's mother expected more for Brian's school day,

I think he loves it. I mean, it's easy, right? School is easy. He shows up and he does some worksheets that are super easy, and he's not challenged and he goes to recess and he

goes to lunch...It bothers us as parents knowing he should be getting more out of the day. He should be a little challenged. He should be getting some instruction from somewhere.

A special education teacher explained the lack of new content during this period, "It was difficult. We didn't introduce any new curriculum at all. I wasn't jumping into new phonics lessons or new math concepts. It was review." Roy and Vicky's mother confirmed the lack of new learning, "I guess during that first chunk of time, they were definitely not learning anything new. It was all just basic stuff that they had already reviewed. Things that were easy for them to navigate." The decision to not introduce new content during school closures was representative across schools in this interview sample.

While some children found the review and low expectations easy to manage, other children struggled with this style of teaching, without regular face-to-face time with their teachers to receive assistance. For students with disabilities or different learning styles, a recorded lesson is not ideal. Grace, who has dyslexia, was required to watch prerecorded videos from her teacher. Her mother explained how upset Grace was with this learning modality, "Grace needed a bit more motivation. She would get frustrated. 'Well, I don't understand what the teacher is saying.' And it wasn't a live teacher that she could ask. It was a prerecorded video." Her mother worried that this teaching method was detrimental to Grace's learning, and she was frustrated with the changes that caused her to struggle.

Todd and his mother were also frustrated with their teacher's learning videos, "My son's style of learning is more tactile. So, it was really hard for him...If he's not interested in a specific topic, or maybe the way it's presented, it's really challenging to get him engaged to complete the assignment."

## ***Virtual Learning***

Many schools eventually transitioned to virtual learning during spring 2020. Middle and high schoolers were more likely to experience virtual learning during this period than their younger siblings. As older students had more experience with technology in the classroom and teachers in upper grades relied more on virtual classrooms prior to the pandemic, it followed that they were able to pivot to this platform more quickly. The experience for elementary students was a more difficult adjustment. Joey's mother expressed how difficult virtual learning was for her younger children compared to her older foster children,

We also have little kids at home who need to be monitored, because they can't do it. They don't understand. And there's only me trying to balance work, and then being able to help kids who all need computers and who all need to be monitored and have help. It was nearly impossible to get it all done. Much less well.

Approaches to virtual learning for younger children were varied. Some schools designed synchronous teaching sessions with their students, however this did not become the norm until the fall of 2020. Other schools provided limited virtual connections, maintaining a 'check-in' format and minimal expectations and communications. Lillian's mother was frustrated by this minimalist approach,

It was all virtual. And they sent her home with a Ziploc bag full of stuff that she was supposed to do, but no instruction for us. And, you know, when you're learning online, and you're asking a first grader to figure this out, it was frustrating, and even frustrating for her. It was like, good luck.

Engagement with students was critical to a successful virtual education program. The ability for a teacher to pivot to this medium of communication with students and engage their students in learning determined the success of their students. Some teachers did this effectively, while others suffered due to lack of skills and experience. Luke's mother requested

her son be moved to a new classroom because of his teacher's inability to engage her students virtually. She described Luke's teacher and why she made the request,

Her technology skills were really poor. Her teaching style was already a little bit flat, so when you put that on video, it was just very dull, and not engaging, and it wasn't working. It was like, oh man, this is not going to be good. So even before that school year ended, I saw the writing on the wall because her tech skills were so deficient, I was really scared for the following year. I didn't know yet that COVID was going to last that long. But just in case, I asked the school if we could switch [to a different classroom] because I had a friend who had kids in the other first grade class, and I knew that teacher was doing songs online, and just already really engaging the kids...So I was really lucky to be able to switch over to a different teacher, and that made literally all the difference for our experience.

Vanessa's mother explained how important engagement is to learning, "My daughter was in fifth grade with a beloved teacher who was very engaging, just a super energetic personality filled teacher which really helped. Even online, she just rocked it, she really did a great job." Liam and Olive's mother also discussed the engagement piece for her kindergartner, Olive,

Surprisingly, she loved her teacher, and her teacher was amazing. Absolutely amazing. And Olive would sit there on her computer the whole time and she just loved it...She learned a lot. I have to give the teacher a ton of credit for making it kind of easy and enjoyable.

Parents blamed the lack of engagement on why their children struggled. Vanessa's mother viewed it as the cause of her daughter's learning loss,

My youngest probably fell backwards, just because her teacher really couldn't handle the stress of it, she just gave up a little bit. It was like, here's a packet of information, here's a packet of work, and it was up to us parents to deliver the content.

James and Violet's mother addressed the lack of engagement with those who teach gym, art, or music.

There's an older gym teacher and a music teacher. They both are not into online school at all. And the gym teacher would get so mad [at the students]. So, I emailed over and

said, 'you may want to have somebody who's a little computer savvy, help out the PE teacher because he's having all the six-year-olds sit in class for an hour with their hands in the screen.' It feels a little punitive, a little reminiscent of like my Catholic school years.

Teachers often relied on online programs to provide engagement, but these programs were not as engaging as they may have hoped, as Sam and Julie's mother explained, "so they had him do some online programs that are kind of like games, but they were incredibly tedious. And he just hated sitting through them. So that was not fun for him."

As these examples illustrate, there was a wide range of individualized approaches to teaching during virtual learning. Teachers experimented with synchronous, virtual class times for learning or socialization. They created videos for their students to access for an asynchronous approach and utilized online learning programs to increase engagement. Students had varying levels of access and engagement with these modalities depending on their teachers' approach, technology skills, and ability to engage with students online.

### **Fall 2020: Return to Normal?**

Throughout spring 2020, communication breakdowns occurred between administrators, teachers, and parents, creating a continuation of chaos, confusion, and stress for everyone involved. Teachers also struggled to communicate effectively with parents and students. This theme of communication breakdowns continued throughout the summer and into the fall of 2020, adding to the anxiety and uncertainty for students and their families at the start of the new school year.

Natalie's mother was expecting clear information to be communicated with parents prior to the fall semester, but she never received it.

It was five days before school was supposed to be in session and I hadn't heard a single thing from her teacher or principal. And I had reached out many times. It didn't give me a whole lot of trust in the communication for the upcoming school year...They weren't communicating and that was something that I really needed them to do. I needed to have that steady communication. And so, I just lost faith in it. And I pulled her out of the public school district and put her in charter school.

School administrators and educators spent the summer of 2020 creating plans for the upcoming school year. Public schools in Northern Colorado chose to start the fall 2020 semester using a virtual teaching platform and with plans to later transition to hybrid and in-person learning, on a wait and see basis. They assured the community that they were monitoring COVID-19 data, community case rates, hospitalization rates, and death rates, and following guidance from local and state government, and the CDC, to make decisions about changes in teaching modalities.

Charter and private schools were more likely to take a different approach, either choosing to teach virtually throughout the 20/21 school year or choosing an all in-person model, with guidelines in place for quarantine of classrooms when necessary. Parents were grateful for the all-virtual modality as it allowed for consistency. For families attending all in-person schools, the benefits of in-person learning were greater, but the uncertainty increased. Many parents reported that because their children attended school in-person, they were often sick or were exposed to the virus in the classroom, with these incidents causing frequent requirements to quarantine at home and switches to virtual learning.

Kelli's mother expressed her frustration with the in-person modality,

Oh my gosh, it was like every single month, there was probably a week where they weren't able to go to school and when my kids get a cold it lasts two weeks. And it doesn't matter what it is, the symptoms linger...Dawn missed so much school. I think in the first semester she had 30 sick days. It was really bad.

Benson's caregiver was frustrated that there were so many "absences because of being sick, and so that adds a big chunk in terms of learning and trying to catch up." Andrew's aunt expressed irritation at the uncertainty over sickness exposure and classroom quarantines during in-person learning for her nephew and her own children,

We went in person, but there were thresholds in place where we would have to quarantine with the understanding that we were going remote. So, of course, there were always the classes that were quarantining, or cohorts that were quarantining at any given time. And if you were on that list, it was a two-week automatic remote learning kind of time.

Billy's father was angry over the loss of learning his son experienced due to strict quarantine requirements,

Since he's in the autism program, he has two classrooms, and the autism program is a mix of kids from kindergarten through fifth grade. He was in both those rooms every day. Oh my god, poor kid. So, they would say, well, you were exposed to COVID in your general ed class, so you're quarantined for nine days. And then you come back, and they say, oh, now you were exposed to COVID in the autism classroom, now you have to quarantine. And that was it, you couldn't test out of it.

The inverted disaster caused uncertainty and inconsistency for students and their families throughout spring 2020 and during the following school year. School districts were unprepared for school closures and there was a lack of planning for continued learning during an inverted disaster. As ongoing waves of the pandemic led to unpredictable shifts in learning modalities, from at-home and virtual, to return-to-school and hybrid approaches, students and their parents were faced with increased uncertainty and barriers to learning. For students with disabilities who required access to both general and special education classrooms, following the required safety precautions took an even greater toll as they faced greater exposure to the virus, were forced to quarantine, or were barred access to classrooms to maintain a hybrid

schedule. In the following sections of this chapter, these structural barriers to education for students with disabilities will be outlined in greater detail.

### **Experiences with Special Education**

Services to students with disabilities fall under the Individuals with Disabilities Education Act (IDEA 2004). This is a federal law which mandates a free and appropriate public education (FAPE) be provided to all children with disabilities in the least restricted environment (LRE). In recent years, the emphasis has been placed on integrating children with disabilities into the general education classroom as much as possible and supporting children with assistance in the classroom with external support as needed. In addition to IDEA, schools must follow Section 504 of the Rehabilitation Act of 1973. This section protects the rights of children with disabilities and provides provisions for accommodations and modifications to be implemented in support of students without discrimination. The state of Colorado also follows the Exceptional Children's Educational Act (ECEA) which includes provisions for children with disabilities and for gifted children.

Students are identified as requiring special education when a disability hinders their academic performance. In the state of Colorado, these disabilities fall within 14 categories. Specific learning disabilities make up 33% of this population. This category includes disorders that impede the ability to 'listen, think, speak, read, write, spell, or do mathematical calculations,' such as perceptual disabilities, dyslexia, and aphasia (NCES 2020). Additional categories include autism spectrum disorder, deaf-blindness, developmental delay, hearing impairment (including deafness), intellectual disability, orthopedic impairment, speech or language impairment, traumatic brain injury, visual impairment (including blindness), other

health impairment (may include attention deficit/hyperactivity disorder, diabetes, autoimmune disorders), or serious emotional disability. Students can also fall under the category of having multiple disabilities or having an infant/toddler disability.

Students with disabilities are placed on an Individualized Education Plan (IEP) and/or on a 504 Plan. These plans outline the student's goals, and the required services, accommodations, and modifications to be provided by the school district. These legally binding documents are mandated by the state and schools are required to comply with the listed provisions and services. In addition to IEPs and 504 Plans, students struggling with reading may be placed on a READ Plan that increases student support in reading. Students that have health impairments or physical disabilities may also have an Individual Health Plan (IHP) which outlines physical and health care and accommodations for the student.

Students with disabilities rely on the services, accommodations, and modifications provided for in their education-based plans. These provisions help students with disabilities to advance through their education, making progress towards their individual goals, including educational, developmental, speech, occupational, and physical goals. Without the additional one-on-one teaching and therapies provided by school educators and therapists, these children would not be set up to succeed in the public school system.

When the COVID-19 pandemic caused the shutdown of public schools, the education system was unprepared for dealing with the fallout. As discussed above, little planning occurred, and educators were unprepared to continue teaching their general education classrooms. Teachers did their best to pivot to new strategies, utilize virtual classrooms and video conferencing platforms, and maintain expectations and learning standards, assessments,

as well as social connections with students. Teachers and students struggled with these new modalities. However, complications were compounded for educators who had students with disabilities, whether in the general education classroom or in special education classes.

### ***Decreased Access to Education, Services, and Accommodations***

Students with disabilities had less access to the necessary technologies as teaching transitioned online. Students with cognitive disabilities, hearing, vision, or physical impairment, or those with developmental delays or attention disorders could not access these modalities in their general education classrooms or with their special education teachers. Billy is a second grader with autism and attention deficit disorder. His father explained the difficulty of virtual learning this way,

To ask a five-year-old with ADHD to sit in front of a laptop and pay attention passively; his kindergarten teacher is insane! I think this is true, not just for autistic kiddos, but definitely for [my son], it was impossible for him to attend class without an adult physically present next to him actively helping him learn.

Lori has an intellectual disability that added barriers to virtual schooling, as her mother explained, “As a parent of a child with a disability who needs a high level of support, we couldn't just put her in front of the computer and let the teacher instruct her. Everything had to be parent supported.” Liam and Olive’s mother shared the struggles of a child in Olive’s learning pod, “Some of the children did not do their computer work. They just couldn't handle it. There's one who was born very early. He uses hearing aids, and he struggled a lot with trying to sit at the computer.”

Children with significant disabilities, such as Down syndrome, may have little connection to learning through a virtual computer screen. Kaitlyn and Tanya did not understand the requirement to sit in front of the computer for prolonged periods. Kaitlyn, a kindergartner,

refused to participate, leaving the computer as soon as she could manage to get away. Judy is a child with severe ADHD. Her mother described the barriers for her child this way, "When COVID hit, they tried to do online [schooling], she just cannot do that. So, we were not really able to do anything with her. She had to stop school and all her extra speech therapy that she was getting."

These struggles led to a lack of provision of services by schools. In some schools, children with disabilities were excluded from the general education classroom, a violation of FAPE and LRE requirements. Spencer has a physical disability and autism. His mother felt grief over his exclusion from the general classroom.

The way his IEP teachers did his schedule was, he could check into his teacher's classroom first thing in the morning...After that, they would just do his one-on-one stuff. He is not a fan of one-on-one. He likes being in a classroom. So, it was very hard for him to just be with these paras and his special ed teachers.

Spencer worked on math and reading with his special education teachers, but he was missing out on his favorite subjects in the general education classroom.

He never got to come to his classes in the afternoon. I kept telling the teacher we had a problem here. We have a disconnect. He's not getting his science, social studies, or his specials like art and this that and the other, he's missing out. And I feel like this is gonna take a huge toll on him. And they kept saying 'no, no, no, he's doing great with his math and his reading. And that's really all kids need'.

Teachers did their best to educate students with disabilities during a difficult situation, without the needed resources to make inclusion in the classroom work. Benson's caregiver explained her struggles with Benson, a student who is hearing impaired and has developmental delays,

Usually, he would have a full-time para with him when he was back in school. He had a sign language interpreter with him...He's able to read lips and he's able to hear a little bit but, he also needed a lot of extra support, which was really hard because I wasn't

able to give all of that to him. For him to sit in front of a screen, and they would have the interpreter in one little window and then they would have the classroom. But that was not his jam at all...And that was really hard. That weighed on me kind of a lot because it was like, talk about a kid that remote learning is not the best place for him.

Lack of planning for these learning environments in the special education context, during an inverted disaster, created an unfortunate situation in which students with disabilities did not have access to proper accommodations and modifications for these learning environments. As these learning modalities were untested, parents reported increased lack of access to learning. For example, Lori's paraprofessional typically collaborated with Lori and her mother to create modifications in the classroom due to Lori's developmental delays,

My daughter doesn't write. So, if things are not modified for her ahead of time to be able to voice type or have things pre-modified in a way that she doesn't have to write things down. Typically, a para is having to scribe for her; a para might be organizing things from an executive functioning standpoint, so that she can access them...She can read but her reading fluency is very slow, so in order to keep up with like the rigor of class, somebody has to read to her or provide her with audible text.

During virtual learning, the school tried to provide a paraprofessional remotely, but the needed modifications and supports did not occur,

So, there's several things that we found having a para remotely could not do. You really just had to have the person sitting next to her being able to take the information that was being presented from a teacher and being able to scale it real time for her to be able to have access.

Blake and Joy's mother struggled to get her daughter's school to understand the need to turn her camera off on her laptop during virtual school. "My daughter, if she is stressed, breaks out in a full body rash which is horrifically uncomfortable, but especially for a teenage girl. Putting her on camera, as she turns bright red is maybe not the best match, right?" This situation required an accommodation to turn the laptop camera off as needed, however, the school's virtual learning policies did not make exceptions for these types of needs.

Parents and teachers reported that the required special education services were cut off for longer periods of time than general education services. Students who did receive services did not receive them as frequently or as effectively as required by their special education plans.

Billy's father was angry about the inequity his son, and others, experienced,

I know that teachers tried, and I know that they did the best they could, but it was not a high-quality education. I have very strong feelings about what I would say is just shameful. And just unforgiveable, the way we betrayed the youngest, during this pandemic; it was awful. And the inequity we will see for children with developmental differences, as well as lower incomes, will reverberate across oceans.

Health and safety policies implemented by Todd's school contributed to the lack of services provided him,

They were doing student pods, so the special education teacher would only see one pod of kids. His services were getting either cancelled or moved around to whenever that teacher wasn't with another pod of children, to keep exposure down, but that was a really hard thing. He just didn't get the support and the services that he was supposed to be getting.

Children in gifted and talented programs also experienced these issues. As Eve and Bria's mother shared, "I think everything was put on hold...so no GT services during that time, all mainstreamed. Every now and then the classroom teacher would send an extra worksheet." Due to COVID staffing issues, Brian's school GT specialist was reassigned, and Brian did not receive adequate services. A substitute filled in, but she wasn't qualified to take on the role, "I think, technically he still received services. But for the last two years the teacher has been pretty unmotivated to really do anything. We haven't had goals. It's been a different scene since coming back with COVID."

Occupational therapists could not meet face to face with students, causing a gap in services and progress on occupational goals. Speech therapists were better able to provide

therapy to students virtually. However, this was still challenging for children with attention disorders, or other cognitive deficits, in addition to speech delays. Younger children in pre-K and kindergarten also struggled to participate. Unless parents took part in the therapy process and worked with their children under therapist guidance, children went without services.

When asked if his son received his occupational therapy during the pandemic, Billy's father responded, "in a manner of speaking, they did remote OT with him, which, oh my God, I thought remote math class was hard. Remote OT is insane. The technology never worked." Elisa is a child with Down syndrome. Her physical therapist sent home a few activities to do at home and the speech therapist worked with Elisa virtually, "reading stories or working on letters and sounds and just responding to questions." Her mother stated, "I wasn't a big fan of that either, especially for therapies, I felt like that really needs to be in person, one on one. [Virtual] is just not the same."

Parents of younger children were upset with the lack of available in-person therapies, as their children could not understand therapy online. As Judy's mother explained, "She had to stop all her speech therapy that she was getting. They tried to do it by Zoom, and she would just run around the table." Kelli's mother shared a similar story about her pre-K child's transition from in-person therapy to online therapy, "She did well for being so young, but it was really hard. She did not care about her speech therapist on the computer for many months."

For students receiving services, they were often inconsistent due to difficulties in scheduling and technical issues, loss of internet connections, and conflicts with parent work schedules. During the fall semester, when hybrid schedules were implemented, this made the issue worse, as educators and therapists worked on alternating days or with separated pods of

children and could not co-mix groups. Some students received consistent services, while others were left out of services entirely due to these scheduling conflicts and health and safety guidelines. A special education teacher explained the impacts of this scheduling process,

For some of my kids, their muscles weren't getting stretched the way they should have been. They weren't getting out and walking like they should have been. They weren't working on daily life skills or occupational therapy because their therapists just didn't come in on those days. They came in on the days that we weren't there. So that was another part that was hard about hybrid.

Hybrid schedules also affected the consistency of learning. Students with significant disabilities require constant, repetitious learning to acquire basic skills. Children with severe cognitive disabilities need a lesson to be read to them several times over days or weeks before they can grasp new concepts. During hybrid learning, this created retention problems as teachers did not provide consistent, daily repetition. Because students with disabilities could not access education on scheduled virtual days, these students were only actively learning for two days a week. One special education teacher expressed the problem this way,

To this population, routine, routine, routine. Moreover, normality is super, super important. So, with the constant change of routines that we're doing, whether it's going to hybrid school, or online, or having to do all these new protocols and changing up the school routine that they've been doing for the past 10 years, depending on what age group I'm working with. It's frustrating.

Danny's father, a special education teacher, explained the process of hybrid learning,

We were careful not to mix cohorts, different classrooms...That meant that there were some students whose IEPs weren't being met. Not all of them are getting the time in their IEPs, but it was just kind of understood that this is a pandemic, we can't mix cohorts. This is unprecedented...One of my cohorts is all together in a classroom so I could see them together. But there were others that I had in different classrooms, so I could only see them on alternate days. I'll give one student 30 minutes on Monday and another student 30 minutes on Tuesday, and we'll just alternate as opposed to every day like it should have been. So, IEPs were not fully implemented in every case, during the pandemic.

These stories show, that while schools attempted to increase access to in-person learning for students, using hybrid teaching approaches, the structural barriers for students with disabilities increased and exacerbated gaps in learning. As students were barred from classrooms on alternating days or did not have access to special education teachers and therapists, they lacked consistency in their educational services, and lost progress in learning.

### ***Improved Equity for Special Cases***

It should be noted that for some children with disabilities, the new learning modalities offered improved accommodations. For example, children with dyslexia spoke responses into their computer, rather than struggle with spelling and grammar. Some older students with autism were more comfortable communicating through virtual platforms and engaged more with teachers and peers online. Vanessa's mother looked forward to her children going back to in-person learning, but she had a neighbor whose older son was doing better with online school. "He was thrilled to be virtual and is going to finish his high school career virtual. He doesn't want to deal with the social drama. He just wants to do his classes, and he's going to graduate early."

Todd engaged with virtual therapy because he had freedom to be physically active during the sessions. "We could prop up the device, and he was free to be in his room and roll around on the ground, but still be engaged. He had a little more freedom to move his body and still be engaged."

For students with medical disabilities, missing a lot of schooling prior to the pandemic was common due to their conditions. Violet is a fifth-grade girl with type I diabetes. Her mother explained the benefits of virtual school for Violet,

It really benefited us when teachers had to put their stuff online because before when she would get sick...she'd sometimes be in the hospital, she would just miss so many days. And I was always asking, what can I do to keep her caught up? And we were never offered help...So [the switch to virtual schooling] was pretty amazing. So, we're sick, but we can still do our thing. Or if we have a bad day, or something goes wrong overnight with diabetes, and she feels like crap, she can still participate and get online and do her stuff, and not be behind in math.

As these examples illustrate, virtual education had the potential to provide new and creative modifications and accommodations for students with disabilities. Students with strong cognitive abilities who were socially or physically disadvantaged were able to increase their access to learning through virtual means. These new online teaching strategies could provide equitable learning experiences and improve outcomes, yet in many cases, this opportunity was missed. A more individualized approach would have improved access to education for more students with disabilities.

### **Family Experiences**

To better understand what students experienced during school closures and how they and their parents were impacted, the context of family life during the pandemic needs to be considered. These factors add to the strains experienced and affect wellbeing outcomes. While families had varied experiences during this period, changes to work arrangements, the varied needs of children in the home, problems with technology during virtual school and work, and the strain on space within the home were consistent across families with school age children. Disadvantaged families experienced unemployment, financial strain, and loss of housing. Families also struggled with a lack of support from schools and other institutions, as well as their traditional systems of support, such as extended family and friends.

## ***Work Status***

For most of the families in this study, at least one parent was present in the home during lockdowns and at-home schooling. These parents either worked from home, were stay-at-home mothers, or became unemployed or furloughed during the pandemic. For those who were working, they struggled with upholding work expectations, while also managing school schedules and assignments, as well as other household and caregiver duties.

Roy and Vicky's mother struggled with these competing needs, "It really impacted my ability to work. Because you had to monitor the children, because again, it was first grade and third grade. They're not as tech savvy as one might think. It was a struggle, there was a lot of stress." For Lori's mother, much of her day was taken up with assisting her daughter, who has a developmental disability, while she also tried to work from home. "My husband, or I had to sit next to her, and be part of a fourth-grade classroom...We couldn't just put her in front of the computer and let the teacher instruct her, everything had to be parent supported." This left Lori's parents with little time to complete their own work during the day.

Billy's father could not keep up at work. He and his wife both worked from home, and they negotiated how to split their parenting/teaching roles each day, splitting the mornings and afternoons between them. "I don't think I worked a 40-hour work week the entirety of the 2020 school year. Not once. It isn't the end of the world, but I feel like I'm starting from scratch toward my next promotion."

Luke's mother abandoned her own work hours and did her best to keep the children under control while her husband worked in the next room, hoping he could maintain his job and their family's primary income.

He was working in the midst of kids running up and down the halls and his door was closed but it was a very small house. So, it's like just on the other side of a door there was a whole life happening. Sometimes he would stop work when it was truly challenging because there were times when a child was really upset, or they were jumping all around.

Parents who were able to stay home with their children during the pandemic, either because they worked from home or were stay-at-home parents, were more likely to be white and of a higher socioeconomic status than their peers who had to leave home for their jobs. These advantages provided them with resources and knowledge to better assist their own children with learning, but also created a disadvantage to completing their work requirements. The one exception to this was parents who were also enrolled in college. These student-parents were more likely to be racially minoritized and low income. Student-parents worked and learned from home alongside their own children.

While many parents were able to stay home during the shutdown period, this opportunity was not available for everyone. In some families, both parents had to continue working outside of the home. This was also true of some single parents in this sample. Parents working outside of the home worked in 'essential' jobs such as in the medical field, as retail workers, or as educators. This created a different home dynamic as parents left for work in the morning and returned in the evening, leaving their children to complete their school day without the supervision or support of their parents.

Brian and Megan's family had a chaotic schedule, as their mother explained,

My husband didn't go to work until 9:30 or 10:00. He was at least home long enough to make sure that both kids were able to log on in the mornings and not have problems and troubleshoot the Wi-Fi. Being in a small town, I made a point to come home every day for lunch, to check in and make sure everybody was good, and fix the printer and things like that. And then just hope that they could make it till three o'clock when they were out of school.

This schedule created exceptionally long days for the family. “We'd come home from work at the end of the day and it's hard to be a teacher at the end of the day. ‘Show me your work. Where's your worksheets? What did you turn in?’ It was tiring.”

Alan’s mother worked as a family liaison for a public school and worked tirelessly delivering laptops and other school supplies to families. Her experience during the pandemic was altered by working outside the home. “For me and my children, it was hard because I continued working and they had to stay home and do their work...So leaving them here to be responsible to complete whatever work they have was challenging.” She went on to describe the challenges of leaving her children home.

At first, we didn't know how to do this zoom thing, or any online content that teachers would send. So that was a struggle, because my children would call me and say, ‘I don't know how to get on. I don't know what to do’.

These moments of confusion were hard on her youngest son who only had 20 minutes a day to meet with his teacher. Missing that time became detrimental to his schooling.

Lillian’s mother, an educator, observed additional challenges for students in her school, which serves a lower income population, “A lot of the parents were at work, or they were secluded in their own space in the house doing work from home. A lot of students were left on their own. And they’re left to their own devices.” Parents worried about their children’s progress but could not afford to leave their jobs.

Parents who had the advantage of staying home with their children during the pandemic, benefited from observing and monitoring their children’s schooling, yet their own work suffered and added stress to their daily lives. Parents who left home for work worried more about their children, but met their work demands. Each work status represented in this

sample of participants brought up its own strains on parents. These strains were exacerbated for those with a disabled child who required more assistance with schooling.

### ***Strains in the Home***

Family experiences also differed in terms of how many children were in the home and based on the varying needs of those children. For example, parents with older children gave their children more autonomy over their schoolwork. Parents with younger children had to be hands-on and guide their children through their school day. In some households, babies and toddlers also had to be cared for, while parents helped older children with school and attempted to complete work from home.

Patty's mother shared, "So between trying to entertain the three-year-old and help the kids stay focused and on task, and then also work, it was super challenging." Carla's mother tried to schedule her younger children's nap times at the same time her older children were attending virtual classrooms. She explained sarcastically,

That was the other fun thing. Everyone had a different schedule, there was always somebody on a Zoom meeting at any given moment around here. They had meetings at 8, 9, 10. I think by 11:30 everybody ate lunch really quick. And then by 12:30, my daughter had to be back online for two hours while I was doing nap time for the younger ones... We were juggling. And then after one would get off, I would make sure to do the work with him or her. We would sit down and do the work that was assigned. And then we'd go through Google Classroom or Seesaw or a number of different programs. There's like five or six different programs that we use, and I had to go into all of them and make sure that they did the assignment in there too.

As described in the previous example, parents struggled with managing various schedules for their children. This was especially true for those with children in different schools, or caregivers who managed pandemic learning pods. Benson's pod teacher explained this challenge, "I had six kids, but they were all at different schools, so different schedules. So, I had

my phone basically set for different timers...So, I feel like their online teacher just saw this random teacher running around sweating.”

When asked how at-home learning was challenging, Vanessa’s mother answered simply, “I have three different kids who are as you know, as a parent, three different individuals who have three different styles of learning and strengths and weaknesses.”

Of course, this study also includes children with disabilities. Parents took varied approaches towards their child with a disability and their non-disabled children. Trying to meet each individual need was a challenge, and parents felt they had failed to meet these varied demands. Lori’s mother expressed her feelings about the decisions she made,

I think the biggest challenge was having a person with a disability who requires significant support and a typical person who needed help at the same time. I just expected my little one, my typical one, to just do her thing and be fine, right? I was not expecting the amount of need that she would have and that was definitely difficult to manage.

She later described how her unawareness of her typical child’s struggles may have affected her as she placed more attention on Lori, “There's definitely some yet to be discovered scarring that occurred with my typical child.”

Another mother shared how the needs of her son, Spencer, who has autism, were different from her younger twin boys.

I think he suffered more than my little ones did, because of that loneliness, because we couldn't get kids his age to come over. I felt like because all he was getting was being around little brothers, socially, he just kind of regressed a little bit...He wasn't acting like a nine-year-old anymore.

Technology played a key role in the life of families during the pandemic. School transitioned to online forums and video classroom spaces. Students and parents had to become versed in technology, the use of Google Classrooms and Microsoft Teams, educational

platforms such as Seesaw and Lexia, taking photos of assignments, uploading completed work, and communicating with teachers via chat or email.

Eve and Bria's mother was confused by these new technologies, "For that beginning part, it was really confusing to use all the different software. We missed a lot of assignments, because I would think we had done everything and then realize we didn't." Luke's mother discussed the logistics of turning in assignments. "They had dictation. She would read something, and they would have to write it. And then we had these notebooks and so we had to take pictures of everything. And she graded everything by the picture."

Roy and Vicky's school day was often derailed by technology,

It was a struggle, because I had two kids who are getting on computers, and I had to set them up and you think, well, once you set them up, it'll be fine. And then there's just constant troubleshooting and login errors and remembering passwords. And they're supposed to be in one session, but they're in the wrong session.

For families with multiple children, this often became a chaotic experience and keeping up with each child's online schedule and assignments became a full-time job. Joey's mother explained, "It was chaos. Trying to get everybody onto a computer and then trying to monitor that and it all had to be in a similar space, because I had to be able to jump from kid to kid."

Reliance on technology created problems in the household,

It was too loud because you've got four computers and four people talking. And they're wearing headphones, but then I can't hear when the teacher is asking for them to do something, or if they need help, and I'm trying to jump in and see where they're at and what they need and printing papers and uploading things.

While learning to use these various technologies was cumbersome, families also managed the use of the internet and troubleshoot frequent loss of Wi-Fi. Internet issues were often a problem. Alice's mother worked in education. After giving out laptops to students, "We

quickly learned that, because everybody was at home, internet usage was really difficult. So, we also purchased WI-FIs to support families and had vans, connectivity stations, that would go in populated areas just to support everybody's internet use.”

Stan and Lina’s family moved into a new home just before the school shutdown began and had trouble getting internet connectivity in their new home. Their mother explained the problem and how technology added to the stress of the pandemic,

It was brand new development that didn't have Wi-Fi yet. We ended up having to get like one of those little Mi-Fi devices from the school and the connection was just really poor and really spotty. It was a constant headache of staying online and not getting kicked off and everything freezing.

Home became a shared space for work, school, living, and playing. Families were forced to negotiate space for each member of the family to attend school and complete their work. Families took varied approaches, with some families dividing up a multipurpose room, and others choosing to separate into their own private spaces during the school/workday.

Luke’s mother rearranged her space for at-home schooling,

We had a small living room, so we rearranged. We removed the couch and put it in my son's bedroom, so we would have space. We put a card table in, and we had our dining room table, and then we found a random desk. Our little, tiny living room was like a classroom for four. And that's where they would work all in this classroom.

Some families separated everyone to minimize distractions. Eve and Bria’s mother took this approach, “Space was a challenge because I live in a two-bedroom apartment and I would put one person in the living room, another person was in the bedroom, and just trying to make sure that there was less distractions.” Obi and Eli’s mother set the children up in different rooms of the house to keep distractions down. She still found it difficult to get her own work done and help them with schoolwork, “It was very challenging because I can't put them

together. I have to separate them. One was upstairs in the room, one in my room, and the other one in the living room.”

Most parents in this sample described their challenges managing their space. These challenges were greater for those with smaller spaces to work with. Parents who were low-income and living in small apartments, for example, were burdened by a lack of available space. They struggled to make room for each child and themselves to work from home. Upper-class families on the other hand, had more room to work with, finding it easier to rearrange their living spaces to accommodate work and school needs.

### ***Income and Housing Precarity***

Most families in this study were employed during the pandemic. However, some families experienced loss of employment or lost hours due to lockdown, sickness, or exposure to the coronavirus. These parents struggled financially, and experienced stress due to financial worries. This was compounded by the uncertainty of the pandemic and the ability for the economy to recover. Many parents did not know if their jobs would continue to exist in the coming weeks or months.

Carla’s mother explained how the quarantine rules affected her work hours and income, “There’s no unemployment when things are slow. There’s not a safety net really when you need two weeks off for the kids. There’s not a safety net when you need five days off to isolate.”

Liam and Olive’s mother was furloughed from her job, while her husband’s career depends on live events. All his scheduled events were cancelled in the spring of 2020. “It was definitely a scary time not knowing if either of us were ever going to have our jobs back.”

Prior to the pandemic, Stan and Lina's mother stayed home with her children while earning money doing childcare and substitute teaching to earn extra money. "It wasn't a lot, but it was enough for us to make ends meet. And then when I couldn't do daycare and I couldn't do subbing anymore, yeah, it was a financial strain." Spencer's mother who worked part time outside of the home had a similar experience, "Financially, it was a huge hit because I wasn't working...we were going into debt again and that was not good...It's good we had savings, but we went through that savings fast."

Kelli's family suffered due to financial strain. They even went as far as giving up their family dog. Her mother summed up the differences experienced by families who are poor.

It was really hard when everyone else was able to stock up on things, but we couldn't buy just the basic necessities. That was very difficult. And to see people panic buying things, it just, it really showed me the difference between classes of who can afford to stock up out of fear, and who is going to have to just go buy the scraps.

This story highlights the ways that economic precarity affected families during the pandemic. As parents with financial resources stocked up on basic needs, as well as educational and recreational goods, those with limited resources went without those items that would make learning, working, and quarantining more comfortable and successful. For parents with a disabled child, these issues were exacerbated as they added to the stress of their new situation.

One family in this study experienced precarious housing during the pandemic and lived out of a motel for six months during the summer and fall of 2020, while waiting for repairs on a new home to be finished. Blake and Joy's mother described what happened.

As luck would have it, the sewer backed up into our basement, and we ended up spending six months in a hotel. We spent July to January in a hotel. The three of us finding out that all three of us have ADHD doing work and school. And that's one way to find out real fast.

Although this family had the means to acquire housing after this precarious period, their experience left an impact. She described what her days were like sharing a hotel room with her two children, working from the room, and participating in virtual schooling.

I was facilitating the Q&A meetings in Zoom with 600 employees, with my children sitting behind me in our hotel room, sworn to silence. I would email their teachers and say, 'Okay, I'm really sorry, but from one to two on Tuesday, they literally can't participate in class because I have to run this meeting.' Because there's nowhere else for them to be, it's not like I can send them to the lobby, and I can't do this meeting from my car.

When examining the impact that economic precarity had on families during the pandemic, it is important to consider the intersectionality of these factors with the impact of raising a child with a disability and schooling from home. As parents focused on their child's more extensive needs, they were often faced with the reality that they could not obtain the resources they needed, or even provide stable housing, in which to give a sense of normalcy to their children and themselves. These deficiencies had significant impacts on school progress as well as mental health.

### ***Loss of Support Systems***

A common experience during the pandemic expressed by parents was the feeling of being alone and lacking support. As previously discussed, parents lacked support and clear communication from teachers and school staff, and a loss of services, such as therapy, medical services, and special education resources. They also suffered loss of support from extended family and friends. This loss impacted the way parents and their children experienced the pandemic and virtual schooling.

When asked if she felt supported during the pandemic, Patty's mother answered, "No. I mean, with my family, my parents are older. My mom has compromised health, so we just

really didn't interact. I don't feel like there was much help either way.” Sam and Julie’s mother was not supported, “I would say we had very little. Neither my husband nor I are from here. I don't think that we've ever really developed strong support systems here. We don't have family here.”

Single mothers also struggled with a lack of support, as Obi and Eli’s mother shared, “I don't have that support anymore. It was challenging, because there was no help, it was just me and the kids. No support system. I had to homeschool them myself.” Natalie’s mother, also a single mother and living on a small income, when asked if she had support answered, “I don't...I have some friends that can help here and there but, I'm 30 years old, everybody's grinding.”

Kelli’s mother shared that her friends moved away due to the pandemic and loss of jobs, “The biggest impact is that we lost our support system in terms of friends. And people who were prominent people in our kids’ lives. And we weren't able to go out and make more [because of the pandemic].” The loss of family and friendship groups took an added toll on families during the pandemic, a time when parents experienced increased distress and needed to feel supported to cope with the challenges they were facing.

## **Conclusion**

The COVID-19 pandemic was an inverted disaster. It differed from a typical disaster in the sense that it was caused by an unbounded and invisible threat. It lacked temporal and spatial boundaries, and the threat of the virus led to restrictions on accessing physical spaces that were deemed unsafe. To combat the pandemic, social and institutional spaces were abandoned, including that of K-12 schools. Because of these inverted disaster characteristics, schools and disaster management systems were unprepared to meet student needs.

In this chapter, I showed how a lack of planning for an inverted disaster left students with little support, as their schools were unprepared for the transition to continued learning during school closures. As schools scrambled to devise plans, forms of at-home, virtual, and later hybrid and in-person learning took place. Students and their parents faced a lack of communication, expectations, and competency with teaching in these modalities.

My findings showed that changes to learning and teaching modalities created structural barriers that limited children with disabilities from accessing education and services that they required. Due to lack of planning for appropriate modifications and accommodations, these children had limited access to at-home and virtual learning modalities. This led to a lack of services for students with disabilities, exclusion from general education classrooms, a lack of appropriate accommodations and modifications, disruption of educational and therapeutic services, and ultimately, a violation of IEP and 504 requirements. As learning modalities were changed time and time again, it became even more difficult for students with disabilities to access education consistently. While lack of planning for children with disabilities is consistent with studies on disasters (Ronoh et al. 2015), this study extended the literature by identifying the unique aspects of inverted disaster planning that were lacking for continued education and how these oversights increased the structural barriers to education faced by children with disabilities, thereby decreasing educational equity.

As children continued their schooling during the pandemic, their parents and caregivers faced their own challenges. Most parents in this study continued working throughout the pandemic, yet some parents lost employment or hours on the job, faced financial insecurity, or even housing precarity. Families struggled with transforming the home space into a shared

space for work and school. They managed technological difficulties, the varied needs of their children, all while feeling a genuine lack of support from institutions and their social circles. My findings suggested that parents who faced economic precarity were at greater risk of struggling with accessing resources and maintaining housing. This was especially discouraging in a time when they were isolated in their homes and goods were quickly leaving the store shelves. For parents with a disabled child, the pressures of parenting were compounded further by these economic constraints.

For children with disabilities, the chaos, uncertainty, and new forms of education created an inequitable educational experience and increased their social vulnerability. As an already at-risk population, these students experienced setbacks in their educational progress, physical health and development, mental health, and in their socio-emotional development. Parents and teachers reported disparities between the outcomes and increased social vulnerability of children with disabilities compared to their siblings and peers. In the next chapter, I will describe the inequitable impacts students with disabilities faced due to changes in education during the pandemic.

## CHAPTER 5

### IMPACTS OF SCHOOL CLOSURES ON STUDENTS WITH DISABILITIES

This study examines school closures during the pandemic, and their impacts on children and families. In the previous chapter, I showed how the education system was unprepared to respond to the unique features of the pandemic. The lack of planning for continued learning affected educational access and experiences for children with disabilities as schools pivoted to new teaching modalities. Students faced barriers to learning these modalities, and a gap in special education services, accommodations, and therapies which created inequitable access to education.

In this chapter, I examine the impacts of school closures on children with disabilities, focusing on aspects of social vulnerability that were exacerbated during the pandemic. I answer the following research questions:

2. How did shifts in education differentially impact students with disabilities and their parents?
  - a. What educational, physical, psychological, and socio-emotional impacts were experienced by children with disabilities?

In the following sections, I will draw on qualitative interview data with parents to illustrate the impacts school closures had on their children. Parents focused on four key outcomes. My results show that children with disabilities experienced disproportionate impacts on their educational, physical, psychological, and socio-emotional development during the pandemic and school closures.

## **Educational Impacts**

Students with disabilities experience educational vulnerability due to structural disadvantages within the classroom. As schools closed their doors during COVID-19, these structural barriers increased with the use of new learning modalities. Students with disabilities had limited access to at-home and virtual forms of education, reduced contact with teachers and special educators, and they lacked access to appropriate modifications. They were also often excluded from general education and subjects beyond reading, writing, and mathematics. As these structural barriers increased, these students faced inequitable disadvantages as compared to their peers. Results of interview data show how the conditions of continued education during the pandemic contributed to limited educational access and exclusion of children with disabilities. These structural barriers increased individual risks, such as loss of motivation, decreased focus and engagement, and subsequently, to a loss of academic progress.

Children with disabilities faced barriers to learning during at-home and virtual schooling. For those students with significant disabilities, sitting in front of a computer screen and participating in learning was not an option. Students with audio or visual disabilities were unable to hear or see what was occurring in the online classroom or they were unable to physically manipulate the computer. Others were not capable of understanding this form of learning due to cognitive delays.

Obi and Eli's mother explained how her son Eli, a fourth grader on the autism spectrum, struggled. He did not understand that he needed to participate in virtual schooling and instead wanted to play games and watch movies because he was at home, "His home is when he's

home, it's time to play...He doesn't understand that just because you're not in school doesn't mean you're not going to attend school at home. It was very, very challenging for him.”

Kaitlyn and Tanya were unable to participate in virtual learning due to cognitive deficits caused by Down syndrome. Elisa's mother had similar observations of her daughter's experience, “They had a lot of remote learning and she didn't like it...I could tell because she was not able to engage, having her sit on an iPad and try and do school wasn't really effective.”

Educators had similar experiences with at-home learning. While school administrators expected them to create asynchronous content for students with disabilities, they reported that most students did not complete the assignments. Students with severe disabilities require adult assistance to complete their schoolwork. While in school, these students received one-on-one attention from teachers and paraprofessionals. Without these structures in place, special educators observed that many parents were unable to assist their children due to a lack of skills, time, or motivation. They observed a decline in skills from their students. A special education teacher expressed her frustration that her students were falling behind.

It's just how far we've seen these kids come and the progress that they've done. And you're like, ‘yes, I'm so proud of you. This is awesome.’ And then they go back to square one. And you're like, darn, because we work so hard to get to that point. You're not frustrated at the kids because it's not their fault. But you're frustrated with the whole situation.

Students with significant learning disabilities often require a paraprofessional to provide constant assistance. For students at home, a parent was not always available to engage in their child's education in this way, further obstructing their child's ability to participate in the virtual classroom. Parents found that working with a remote paraprofessional was ineffective. Lori's mother realized she could not rely on Lori's paraprofessional, “We have a para that supports

Lori while she's in Gen Ed. As much as I know that they were trying in this system to provide support, ultimately, that support had to come from the parent or the caregiver.”

The structures that are put into place to assist students with disabilities in the classroom were absent or highly ineffective during at-home and virtual learning. Teachers and special educators did not have the tools in place to modify learning appropriately for these children. Unfortunately, many parents did not have the knowledge, skills, or ability to fill this role. As Lori’s mother explained, parents had to provide that support, however, not all parents had the educational background or the economic security to spend the amount of one-on-one time needed with their child. This placed children with disabilities of lower socioeconomic status at a disadvantage.

Some students with disabilities were barred from participating in their general education classrooms. This structural barrier to the classroom created an experience of exclusion which caused further learning disruption and academic and developmental regression. Vanessa’s parent was frustrated with the lack of integration during virtual learning,

My kids need to be in school. They need that social interaction. They need the activities that happen and the recess and all that stuff. And then with Vanessa specifically, her ability to focus is limited under the best of circumstances. On virtual, it was terrible. She needed to be back in school as soon as possible.

James struggled with learning during the pandemic. His mother blamed this on a lack of integration, which is essential to learning, “I feel like he back slid a lot. But little kids learn from being around other little kids, right?” Veronica’s mother also works as a paraprofessional. She observed regression in the classroom, which she blamed on the loss of social integration and routine during the pandemic. She explained,

I see it in the classrooms every day. There's no smiles. There's no laughter. These third, fourth and fifth graders, especially the ones that are high on the autism spectrum. I mean, getting them back into school and regulated again has taken a full year. We're not talking a couple of weeks, a couple of months, we're talking a full year of getting them even back to the place where they were before.

Students with disabilities were also more likely to be excluded from learning beyond the basic subjects. Spencer was only invited to reading and math sessions with his general education classroom, but he was left out of art, music, physical education, and even science and social studies. His mother believed this was because he struggled to learn virtually, and the school staff did not want to overburden him. This upset her as she felt he was excluded and missing out on some of the more enjoyable experiences of elementary school.

A frequently discussed issue during interviews with parents was that teachers could not assess student work during at-home learning. Many parents did not realize their child was falling so far behind and teachers were unable to witness the learning in person. Students with disabilities went unidentified, while other students required additional support, but these issues were often unknown to the teacher. This led to many students not receiving the support they needed during a crucial time. Teachers reported an increase in needs since the return to in-person learning due to this lack of identification during the pandemic. They were overloaded with referrals and requests for support services once in-person learning was reinstated.

Luke's mother was concerned about this lack of assessment,

One thing that was a challenge, is that even though they were all doing assignments, and they were all getting graded...But the lack of exposure of Luke to the teacher, they weren't able to monitor everyone's progress very well...I think they weren't able to be as responsive, to be able to notice deficiencies, or notice somebody who's excelling or notice how to respond.

Todd's mother lamented the lack of identification and support for her son who has dyslexia. He went undiagnosed during virtual learning. She believed this was due to the virtual modifications masking his difficulties with reading,

This year has probably been the worst year we've had so far. And I think more than anything, I'm seeing that he's needing more support than he's currently getting...And I think there's a disconnect between educators seeing really what his needs are, but now we're seeing a lot of the ripple effects of what last year brought. And I'm seeing that he needs more support on a daily basis.

Alex's mother had a similar experience with her son going unidentified for needing additional support with his writing, "Had he not been virtual, he might have had a teacher see these things...the teacher didn't really get to see his writing. He typed everything."

Billy's father described how teachers could not observe their students face-to-face during virtual learning or identify their needs. He specifically discussed occupational deficits, "There's no way for the teacher to really check work to really help them with their pencil grips. These things are so critical at this stage of education, and it wasn't happening."

Students with disabilities faced barriers to educational access. These structural forces, including lack of access to virtual education, loss of contact with educators, exclusion from general education, and reduced assessment, in combination with cognitive risk factors, widened the learning gap between these students and their peers.

At-home and virtual learning was a struggle for students with mild to moderate learning difficulties, such as attention deficit disorder or processing disorders. These students could not focus for prolonged periods of time. For Benson's caregiver and pod teacher, it was difficult to get her students with developmental delays to focus during virtual learning. Benson loved little toy cars, so she would use these to motivate him. "I said, we're gonna do one minute of being

online. Let's set the timer one minute. If you can do one minute successfully, sitting and listening, paying attention, then you can get five minutes of play time with cars."

Vanessa has significant developmental delays which caused her to lose focus, "There's a limitation to what she can do in terms of just keeping attention when you're sitting staring at a computer screen...it was definitely hardest on her because she does have ADHD...Staring at a computer was definitely a challenge." Luke's mother led a pandemic learning pod with her son and three of his classmates. One child in the pod had ADD and he struggled to participate in schooling, "One of the kids has ADD. It was so hard for him to focus and because he wasn't able to focus, it was disrupting everybody else. I actually had him by himself with a little desk in the bedroom."

Motivation also played a role. As students with disabilities struggled with new forms of learning, they became less motivated to pay attention and complete schoolwork activities. Frustration took over, especially when a teacher or aide was not providing direct, face-to-face support. A student who struggled could quickly fall behind. Luke's mother saw this occurring with the child with ADD, "He struggled the most, to just keep up and do the minimum, he didn't want to do much. So, eking it out was a daily challenge." Joey's mother struggled with her foster daughter, Melanie, who has dyslexia,

She doesn't like to read, she doesn't pick up a book on her own, and trying to get her to do anything, or encouraging her to do schoolwork would usually end in an explosive episode. She just finds other ways to get answers and pass tests and things like that. She's not motivated to really learn.

This issue also contributed to a lack of motivation for students in the gifted and talented program. While these students excelled in the traditional classroom, parents reported that boredom with school and lack of interest increased during at-home learning. Roy and Vicky's

mother described the impact on her son, “He gets bored with some of the stuff and he's getting all of his work done. He gets really good scores. It's just that he's less engaged. And he says, ‘I don't want to go, it's boring.’”

Andrew’s aunt has two of her own children in the gifted and talented program. She lamented the loss of motivation her children now have due to virtual school and the lower schooling expectations,

My children were only on for an hour for math, then they were off for an hour. And then they were back on for an hour for reading. And then they had their electives. You didn't even have to be online; you could do some of the assignments through Google Classroom. So basically, they were bored. And they were really lazy. And they became very disconnected from the experience. I had to force it. Every day. I had to force it. There was no love for it. I'm still dealing with the fallout. They don't want to do anything. They lost their love for it.

Students with disabilities are at greater risk of disengagement from learning because as they struggle to learn content, they often feel disheartened. Structures are put into place in the classroom to combat these issues and provide the level of support students need to achieve success, thereby building confidence and motivation. As these supports were removed due to school closures, both confidence and motivation decreased.

Parents consistently reported that their child with a disability had either fallen behind their peers or lost skills in reading, writing, and arithmetic. This was especially true for children with disabilities. Roy and Vicky’s mother witnessed a loss in Roy’s reading skills, “His reading comprehension when they went back to school was minimal, but a lot of the kids were the same. It was pretty drastic.” Alan’s mother shared that her son is now on a READ plan due to learning loss during the pandemic, “He is on a READ plan now. He's getting there, but he's still quite a ways behind.” Her older son was struggling with math, and she blamed this on the lack

of one-on-one teacher support during the pandemic. She also blamed herself for not being able to help him with his math during virtual learning. Todd also lost progress in his reading skills. His mother described how lack of integration and exposure contributed to the loss in skills,

Those early years are so critical; I just feel like they really build that foundation. And I see the effects of where he started, because his reading is probably the biggest area that he really struggles, and he lost a lot of that traction, and a lot of that ability to learn and the exposure piece of it.

Lori's mother shared the following comment, "It definitely impacted her academically in the sense that, generally speaking, it seems like our kids are 'behind'." Todd's mother worked with an IEP advocate to help her access special education services for Todd, who is on the autism spectrum. She explained the issue facing children on the spectrum according to her advocate, "She is helping about fifteen families with kids on the spectrum. And she said the way that education is set up now really is a disservice to these kids...It's systematic, my child's regressing, he's back sliding." Speaking of virtual schooling, Melanie's foster mother simply stated about Melanie, "I don't think she learned anything."

### **Physical Impacts**

Students with disabilities were physically vulnerable during the pandemic and at-home learning. Children with medical disabilities lacked access to medical interventions provided by school staff. After schools went to hybrid or in-person schedules, students still did not have consistent care due to alternating schedules for paraprofessionals, nurses, and health technicians. Therapeutic services were nonexistent or lacked consistency. These structural barriers to physical, rehabilitative care caused regression in mobility. In addition, children who had pre-existing medical conditions also missed more school during the pandemic due to the

increased risk of COVID-19 infection. Parents also blamed an increase in childhood illness on regular mask wearing, a claim without clear evidence.

A loss of medical services occurred due to at-home, virtual, and hybrid learning. For example, students who required medical interventions while at school, such as feeding tubes or nebulizer treatments, found that these interventions were restricted in order to limit virus exposure. Veronica's mother, a special education paraprofessional, described the complications of working with students with medical needs during this time. She was prohibited from administering required medical services to her students, "I personally could not teach via anything, because they were extensive special needs. You can't teach that online. It was things like getting them to the bathroom. It was extensive."

Shannon and Alfie's mother, who worked as a caregiver providing in-person schooling to students with medical needs, explained some of the issues parents and children were facing,

Their child can't get help because nobody, no staff is allowed within six feet of them...And so, they're not getting educated because nobody can come within six feet of them... If staff are doing those close proximity things, self-care, the feeding, we want our staff to have face shields and masks because of the splatter. When you're doing g-tubes, there's some very messy things that we're involved in that are not optional. I can't imagine working with those extensive needs kiddos and someone saying, you can't be within six feet of them because they don't wear a mask. It's not possible.

Nebulizer treatments were banned in Breanna's school due to the risk of COVID exposure, as her caregiver explained,

One thing that has changed, at least from the nurse's perspective in the schools is that they are no longer able to do any nebulizer treatments at school because they're pretty much just blowing out everything. There's no space in the school for them to be doing that. I thought that was interesting, maybe an accessibility thing. Maybe the student that needs that, has to be online now.

After hybrid schedules began, these treatments continued to be inconsistent. Nurses, health technicians, paraprofessionals, and therapists worked hybrid schedules that did not always line up with the needs of individual students. A special education teacher witnessed the physical outcomes of this scheduling issue on her students,

For some of my kids, their muscles weren't getting stretched the way they should have been. They weren't getting out and walking like they should have been. They weren't working on daily life skills or occupational therapy. Because their therapists just didn't come in on those days. They came in on the days that we weren't there. So that was another part that was hard about hybrid.

Physical, speech, and occupational therapies were disrupted during the pandemic. Some school therapists did not conduct their required sessions with students due to closed school buildings. For some students who had the cognitive abilities to participate in therapy online, speech therapy continued virtually, benefitting students with speech delays. However, in many cases, parents reported that while their child was technically receiving these services, they were less effective in this modality. Other students struggled to participate in any form of virtual therapy and for these children, services were suspended. Occupational and physical therapies were most likely to be halted as they were even more difficult to provide in this context. Some parents engaged in virtual therapy sessions and took ownership over their child's needs and progress. Other parents could not participate due to work requirements or the lack of knowledge and skills. They lamented the regression their children experienced.

Due to lack of therapeutic services, many students with disabilities regressed in their speech and mobility, for example, Kaitlyn and Tanya did not see their physical therapist in person during virtual learning. Their nanny reported that both girls experienced a decrease in

mobility over time. A special education paraprofessional reported similar results with her students. One of her students required physical therapy, but he did not receive these services.

You could notice that his knees were weaker because you could tell he just wasn't using them at home. He was sitting in his chair a lot. He'd stand up and his knees would buckle towards each other. So, we lost some of that progress.

James had speech delays and he “back slid a lot” due to lack of therapy support and integration with other children. Shannon and Alfie’s mother, who is also a teacher, shared that speech therapy referrals increased now that children were back in school,

It’s been interesting to see the increase in speech referrals... [Virtual schooling] affected speech development and language development. Some of my kindergarten teachers are still working on single word level, they're not orating sentences. The kids aren't grasping the sounds of individual letters.

The inverted nature of the pandemic led to the closure of school buildings and disruption of in-person therapies for students with disabilities. As these services were less accessible in an online format, a structural barrier was created that led to a loss of progress in speech and mobility. Parents of higher socioeconomic status who had access to knowledge, skills, and time were able to assist their children at home, giving them an advantage compared to their peers who lacked these abilities. Parents working from home were at a disadvantage, as their time was limited, and many were unable to devote the necessary time to their child.

Parents believed that mask wearing also contributed to a loss in speech. For proper speech development, it is essential to see how the mouth moves and hear each sound. Due to mask wearing of teachers and students in the classroom, students could not see and hear clearly. Parents observed that their children had regressed in their speech development and developed new speech problems. This was especially true for children in pre-K and kindergarten, as well as for those who already had speech delays.

Emma and Rosalie's mother was concerned over her younger daughter's speech regression and blamed the loss on mask wearing in the classroom,

I was a little concerned about the masking and now she doesn't say the difference between the F sound and the TH sound. I wonder if not being able to see the tongue on the back of the teeth was a result of having to wear a mask while she was at school and not being able to see all day long how lips move.

Kelli's mother had similar worries over her daughter's speech development, "It's really hard to help them pronounce words when they can't see your mouth moving...I did worry the entire year that the mask wearing would slow down her progress and make it really confusing for her." A special education teacher observed of her young students,

They all seem to have similar speech errors. The masks muffle voices and you're not seeing the articulators. You're trying to listen to them talk and you can't see their faces either. And I wonder, what in the world are they doing with their mouth? Some of them hold their jaws funny.

In addition to affecting speech development, some parents were also concerned that masking during the pandemic weakened their children's immune systems and led to an increase in illness. Natalie experienced a lot of sickness since the pandemic began. Her mother believed this was due to isolation at home and mask wearing.

I think that the biggest impact on my son is his health. He has never been sicker. I can't get him well this year. Maybe I'm a pessimist, but I relate that to COVID and him wearing a mask out in the grocery store or at the playground, or in his new school, he wore a mask for six months.

Kelli's mother also worried about mask wearing. She believed they were the cause of frequent sickness. Because of rules around masking, she believed her children were unexposed to germs and viruses before going to in-person school, "With mask wearing, I mean, the only problem we had was that we were sick so much since our kids had gone to school for the first time."

This belief that their children were at greater risk of illness due to masking, may have only been a perception, however, it was a concern that impacted parents' decision-making regarding schooling, their trust in school policy, and their willingness to comply with masking regulations. While the political context likely played a role in this perception, the parents who expressed these concerns were on both sides of the political spectrum.

Children with medical conditions in this study experienced less in-person school days than children without medical conditions. Parents were more likely to opt for all-virtual schooling if their child had a pre-existing condition, such as obesity, asthma, diabetes, or another autoimmune disorder. The COVID-19 virus was a greater risk to these children or to other family members and led to them taking greater precautions, keeping their children out of in-person schooling for additional time. This caused children to feel more isolated and excluded from their peers. Parents reported that when their children did return to the classroom, it felt like they had missed out on forming friendships, attending birthday parties, joining sports teams, and were left out of friendship circles that had grown stronger over time. They also regressed in their learning and were upset that they were not at the same level as their peers.

James had an autoimmune disorder, and was pre-diabetic, while his sister Violet had type I diabetes. Their mother explained her reasoning for keeping them in virtual school longer than required, "I wanted to keep virtual school because there's been a lot of type one [diabetes] onset with COVID. A big illness triggers an autoimmune disease. So, I've been trying to hold James at bay as long as possible." Alan's mother had similar feelings due to her son's obesity. She did not send her son back to in-person school until after he was able to get the

vaccine, “That's the decision we made because he is slightly obese. We didn't know how it would affect him if he were to get COVID.”

While these parents struggled with the decision to keep their children out of school, they ultimately decided that their child’s health was more important than academic growth. Some parents later expressed a feeling of guilt over the decision they had made, as they realized the impacts to their child academically, as well as psychologically, and socially.

### **Psychological Impacts**

Psychological vulnerability also increased for students with disabilities. Students with processing disorders or autism spectrum disorders, for example, experienced stress when familiar routines were altered. These children thrived on routine and consistency. Without structure, behavioral issues increased including anger, meltdowns, and violent behavior. According to parent and teacher observations, students with disabilities experienced an increase in stress and anxiety. Social isolation was also especially difficult for those with isolating disabilities. These students needed integration in the classroom to learn from peers, improve their social skills and communication, and feel accepted. Emotional trauma and depression also increased for this population, along with negative self-talk and threats of self-harm. Unfortunately, along with the increased psychological risks faced by these children with disabilities, students lacked access to mental health providers and resources, placing them at even greater risk.

Children with disabilities, as well as those without disabilities, experienced increased anxiety, social isolation and loneliness, emotional trauma, and depression. For children with disabilities, these issues escalated due to lack of cognitive skills, further isolation from non-

disabled peers, and decreased self-esteem due to declining academic skills. This further impacted socio-emotional skills and social connections.

Parents observed increased stress and anxiety in their children. Todd developed tics due to anxiety. Stan and Lina's mother explained how stressful moments during virtual learning would set off her daughter's anxiety. "It was usually triggered by something not working, and then it became a moment of panic. She would say, 'Mom, you have to fix this! And you have to fix this now!'" She went on to explain what she believed was the root cause of her nine-year old's anxiety,

You're nine and you're trying to navigate this new thing, and you don't like change. And all you have is this computer time with your classmates and your friends and your teachers and you want to learn, and everything has just been taken out from under you. And you're like, 'Mom needs to fix this because mom fixes everything. And when mom can't fix it, oh my gosh, I'm gonna go insane'.

James's anxiety took the form of invisible bees in the backyard,

I've noticed so much anxiety for him and it started when we were first at home when he was in kindergarten that spring when it happened, when everything shut down. We were outside in the backyard. And he was afraid of bees. But there weren't even any around. But he was terrified that there was going to be something coming through the air to get him. And it just seemed like what everyone was saying [about COVID], but in a kid version, you know, something invisible, about to get me that I can't see; it's flying through the air.

Lillian's mother, who works with students with disabilities in middle school, shared that virtual school "felt really chaotic for them. They didn't know what to do with themselves. Their anxiety has gone through the roof. Being in person again, I mean, the anxiety attacks, they would get just panicked, it was pretty bad." Some of this anxiety stems from learning loss and the fear of being behind their peers, "They would say, 'I lost a year. I feel like I'm behind a year. I can't catch up.' Their anxiety stems from feeling dumb."

Children with autism spectrum disorder were particularly affected by the chaos and uncertainty of the spring of 2020. As routines were disrupted, they had limited ability to adapt and cope with the changes. Parents described the horrors of home life and the difficulty of virtual school. Some children with autism turned to destructive and self-harming behaviors, hurting themselves and threatening others. Meltdowns were a daily occurrence and anxiety increased.

Billy's father described how his son, who has autism and ADHD, had significant setbacks during virtual learning. When things were unexpected, they could set Billy off, and the uncertainty and loss of routine during the pandemic made things even worse.

Over that spring and summer and into the fall, we had some of the most difficult degradations of behavior we'd ever seen. Violent outbursts that would go for up to two hours at times, biting, spitting, hitting, kicking, screaming, you know, really dark, violent, a lot of elopement, trying to open the door and run away. We resorted to chain locking the doors. We started keeping our kitchen knives up in a high cabinet that he can't reach. He never actively tried to stab someone, but he liked going for the knives and running around with them. And that freaked us out pretty good. My god it was tough.

Benson's caregiver and teacher explained how uncertainty affected children with disabilities, "Grownups like myself were thinking about the fear and not knowing what was happening. And these little kids, they're very resilient, but their world just completely turned upside down as well." She went on to describe her attempts to create normalcy and stability for her students, as she felt this was important for repairing the damage caused by the pandemic.

A special education teacher explained the issue of routine disruption simply,

To this population, routine, routine, routine. Moreover, normality is super, super important. So, with the constant change of routines that we're doing, whether it's going to hybrid school, or online, or having to do all these new protocols and changing up the school routine that they've been doing...It's frustrating. It's confusing. It just kind of throws everything off.

Behavioral issues increased during virtual learning. One caregiver witnessed a boy with autism struggling, “He would just have these little breakdowns, whenever something happened, just little triggers. And then he would start hyperventilating and have a crisis moment.” Blake and Joy have ADHD. Their mother observed similar meltdowns, “There were days where there were some emotional outbursts from my son, because he was frustrated, because he couldn't keep up. Because he didn't know where to start.” Lillian also had frequent behavioral issues, “She was screaming and crying that she didn't want to do her work, she didn't understand. She didn't want to raise her hand. It's harder virtually for her to say, ‘I'm having anxiety over this. Can you help me?’”

Lori's mother shared a similar observation about her daughter,

She gets stressed out, because she couldn't keep up with what they were talking about, and then was afraid to ask, and then she would be melting down. It's kind of one thing triggered the next in terms of a snowball spiral.

Parents reported that as their children who did not have disabilities returned to in-person schooling, they fell back into pre-pandemic patterns and adapted back to this routine with little trouble. Children with disabilities struggled more with the transition and did not fit back into the classroom easily. This was especially true for students on the autism spectrum. The frequent changes to routine were stressful and anxiety producing. Added to this was the learning loss that had impacted these children more than their peers, causing an increased gap between them. Some children developed new behavioral issues in the classroom setting.

Todd's mother feared her son's new behaviors,

This year, we've seen behavior that we've never seen before...I've had to go to the school a couple times, because he's had a full-blown meltdown where there's five staff members cornering him in a room, they were locking him in a room... and it's just been it's been scary.

Spencer, who has autism, struggled with the transition back to in-person learning. He begged his mother to let him do homeschooling after he had trouble adjusting to the classroom, “He'd had this altercation and was just getting more and more upset verbally. He picked up some bad language at school. And they were isolating him in the conference room, they wouldn't even put him back in his classroom.” The behavior became unmanageable for the school staff, and they recommended that Spencer move to a new school. His mother was shocked at their lack of understanding of her son’s issues, and said to the principal,

You do realize that this is all because of COVID, right? He fell behind because of COVID. The teachers wouldn't communicate with us because of COVID. And at this point, if he is behind, emotionally, mentally, educationally, it's because of COVID.

Veronica suffered from a traumatic brain injury. Her mother shared her observations while helping in the special education classroom,

In the kids’ classrooms they scream it out. The manners are gone, they haven't had to be structured anymore. All of a sudden, the structure just went bye, it was like, why do I need to raise my hand? I don't need to do that. I can shout out. I can push my friend. I don't have to take accountability. So, we went from structured accountability to none.

Trudy’s behavior also changed during virtual schooling, and she continued to struggle since returning to in-person school. She made threats to her peers and was suffering from anxiety, “She got suspended from school this past year. She had the police called on her for threatening another child...She got in a fight with her friends...She's required to see a therapist. She takes an antidepressant for anxiety.” Her mom appeared flabbergasted as she stated, “She's about to be 10 and she takes an SSRI as an antidepressant.”

Children with disabilities also suffered from social isolation and loneliness. While most children experienced isolation during the pandemic, these conditions place children with disabilities at greater risk. As they are more vulnerable to exclusion in the classroom, they were

also at greater risk of social isolation from their peers. This can exacerbate social vulnerability for children who struggle with social skills and maintaining social connections. Stan and Lina's mother observed this in her children,

One of my children doesn't do change very well and also really thrives on social interaction. And so, to have to go abruptly to no social interaction, not even school, everything over the computer, was really challenging, lots of big emotions in our house.

Eve and Bria, two girls identified as gifted and talented, showed signs of loneliness. Their mother described how Eve, a kindergartener, would stay online after class ended for more than an hour talking to friends. She realized Eve was lonely. "That was her way of trying to socialize and engage and play and they would show each other their toys and talk about something that they did. I was grateful for that social component." Alex's mother did not realize her son was lonely until the spring 2020 semester was at an end. His teacher praised her students on the last day of school for doing so well with remote learning. She asked the class if they wanted to do virtual learning again in the future. "And my son before anybody screamed NO! He later told me, 'I miss people. I miss my teacher'."

Spencer's mother tried to substitute socializing for walks at the park for her son who has autism, "It was really hard for him. It was a struggle for him no matter how many walks we went on. He kept saying 'I hate this. I hate the virus. I hate this. I'm missing people.'" Alice's mother didn't realize her introverted daughter was feeling isolated and lonely, "She embraced [virtual school] in some ways at the beginning. But later she said, 'I just miss being around people'...And for her to say, I miss being around people was kind of interesting to me."

Children with disabilities also suffered emotional trauma during the pandemic from multiple sources beyond the transition to virtual learning. While this is true for all children,

children with disabilities experienced greater barriers to communicating and processing these traumas. Shannon and Alfie's mother, a special education teacher, shared that her class's previous teacher passed away during the pandemic,

You think about children who have lost a teacher and it's just amplified. They all have IEPs. And they all have pretty severe needs. There's a lot of behaviors. And I think it's just amplified, if security and stability is important for all students to be able to learn, I think for those children with IEPs, it's even more necessary. They need those secure relationships to function.

She described an interaction with one of her students, "He is trying to work through his emotions, 'I'm upset but not upset.' He was trying to come up with the word and eventually, I realized, oh, that's grief. That's not something on an elementary kiddo's emotion chart."

Spencer's mother explained simply, "Our child is emotionally very upset. He suffered because of COVID."

Benson's caregiver shared her observations of her pod students. After observing behavioral issues and meltdowns, she realized that her students were dealing with trauma, "Okay, we're living in a pandemic, you know, it makes sense that there's anxiety right now. This has never happened before and it's hard."

Benson's pod teacher later went on to start a position as a third-grade teacher in the public school. She described the anxiety she observed in her classroom as a result of trauma. She noted that it spiked along with the spike in COVID cases.

[My students] are seeing upwards of six to ten of their friends absent at a time. And they're seeing me rushing around, trying to be as calm, cool, collected as possible...Their anxiety, I noticed, spiked during that spike in COVID. And then I've also had some kids that lost family members, I have one kiddo that their grandma, who they were really close to, passed away during COVID. That's been really hard; that doesn't just go away. And then knowing that friends are getting sick. That kiddo talked to me and cried with me saying, 'I'm nervous. I'm worried about my family, I'm worried about people getting sick and worried about me being sick and bringing it home to my family'.

Parents shared that their children were depressed, and some began to engage in negative self-talk and talk of self-harm. Shannon and Alfie's mother read Shannon's journal, "She was definitely more depressed and was struggling more than I even had an awareness of. I remember one of the things I read was, 'I never thought I'd feel happy again.' I was like oh my gosh."

Alex's mother witnessed two students in her child's class discussing self-harm on the virtual classroom site, "They would talk about self-harm, because nobody likes them. And I thought to myself, this is a second grader, and they're experiencing depression. One kid repeatedly said, 'nobody likes me, everybody hates me, I wish I could go away'."

Patty's mother discussed how depression had taken over a daughter of a friend. The mothers decided they needed to have in-person contact to combat the depression,

I had one friend who had been really isolated because she has diabetes, but her daughter started getting really depressed and talking about killing herself. And so, she decided we have to take the risk of having some people around, because this is getting so bad and so unhealthy.

For some children with disabilities, this negative self-talk intensified when they returned to in-person schooling, and they struggled with behavior issues. Todd had meltdowns regularly in the classroom which led him to negative self-talk, "He reached a breaking point where he felt like he was in a place where they don't like him. He tells me all the time, 'they don't like me, they hate me. I'm weird.' He's very hard on himself."

In addition to the increase in mental health issues for school children, mental health services were typically unavailable during school shutdowns. This was a shock for students used to reaching out to school mental health professionals when they were struggling. For others, there was a lack of identification of need, lack of providers, and an inability to provide support

virtually. Unfortunately, this did not only impact services provided in school, but also with external services. After the initial shutdown period ended, the number of referrals for support increased, without an increase in providers, leading to a deficit in mental health support for children.

Melanie's foster mother described the issue with her foster children losing services, "The biggest challenge was the other services that they missed out on...When they weren't at school to be able to see their school counselor." She described the loss of support for one of her foster daughters,

She would go to the counselor every day, at least once a day when she was at school. I think that she felt a lot of loss of support, more than anybody because of that. And even just the support from teachers that she had connected with and who were supporting her. So, I think there was a massive loss of support systems for her.

Todd was diagnosed with autism just after the pandemic started. His mother felt frustrated when she was unable to access any therapeutic services for him, "Now what do I do? I'm calling all these places and just asking them to put me on the list. I feel like we get this big life changing diagnosis, and then it's like, well, good luck." It took over a year before her son finally met with a therapist.

Veronica could not access her therapist regularly, "The mental health piece was really bad for her. Her therapist at school could only do occasional zoom meetings. And so, all of a sudden, her mental health care just caved." Her mother described how the loss of services for children with disabilities dealt a double blow to children who required routine and stability. Speaking of children on the autism spectrum, she explained that before the pandemic, "At least they had services and they could go to school. And the school could offer them services. They'd go to the therapist's office, and they would do play therapy, and then it just all went away."

The pandemic, acting as an inverted disaster, led to the closure of schools and loss of contact with social support systems. Students with disabilities were especially affected by the loss of these support systems during a time when their routines were disrupted, and they were socially isolated. The lack of mental health support at a time when it was most needed, exacerbated the mental health effects on children with disabilities, as they struggled throughout virtual learning and continued to struggle following the return to in-person schooling. This oversight was due to the lack of planning for an inverted disaster, in which mental health should have been prioritized for students with disabilities before, during, and after.

### **Socio-emotional Impacts**

School is not only a place for learning math, reading, and writing. It is also the foundation of socio-emotional learning, where students learn to interact with peers, control their emotions, contribute to the social group, manage conflict, and learn appropriate behavior for the school and public setting. Students with disabilities were particularly vulnerable to learning loss in the socio-emotional realm as compared to other children. Parents and educators reported regression in socio-emotional skills, increased social anxiety, increased peer conflict after schools reopened, and decreased frustration tolerance. Children in school were less able to manage their frustration and pursue learning new skills. They also lacked general knowledge on classroom behavior appropriate to their grade levels. In addition to these issues, masks may have played a role in the decreased social skills.

Stan and Lina's mother, a kindergarten teacher, explained that the pandemic caused changes in how teachers socialized with young students,

I remember when it first started, we had a meeting with the administration about the rules surrounding social distancing. And it was you can't give hugs and stuff like that, which was really hard. Because working with kindergarteners, they just want to hug you all the time. And at first, if they would try to hug you, you had to kind of say no, you can't hug me. But they need that, you know?

Alice's mother, who worked as a coach for preschool teachers, shared her observations,

Part of my work is looking at our data for student achievement in preschool. And we have noticed a sharp increase in the decline of social emotional skills. Teachers noticed a rise in needing to support kids with social emotional skills. We saw from fall to winter kids that were below widely held expectations for social emotional development. Now that we have masks off, teachers are also reporting that there is a decrease in social emotional skills. Now that masks are off and everybody can see reactions, it feels like we need to teach it again.

Children with disabilities experienced a regression in socio-emotional skills. Mask wearing may have been one contributing factor. Students unable to see faces and expressions now lacked the ability to understand others and their emotions. Todd's mother shared the following observation, "He thought people were mad at him a lot. I think when you're frustrated, and you have half of your face covered, it's hard to read somebody." Todd eventually became used to the mask wearing over time and came to prefer it. He also changed from being a friendly child to becoming more withdrawn.

It bothered him. He said, 'I don't like seeing people's faces.' It really bothered him to actually see somebody's full face. I noticed that it just created a lot of anxiety in him. He developed some tics related to that, as kind of a way to release those feelings.

Shannon and Alfie's mother, and a kindergarten teacher, shared of her students, "we noticed with the masks, they don't notice feelings. They don't even learn each other's names or our names."

Social anxiety became common during hybrid and in-person learning. The risk of social anxiety concerned parents and teachers as they worked to reestablish social connections with their children and students.

Benson's pod teacher noticed issues with another child on the autism spectrum,

She struggled with drop offs specifically and was having a really hard time separating from her parents, screaming, crying, just clinging to parents. It breaks your heart. And that happens in kinder, but I would say that it extended for months, as opposed to what I usually see for maybe a couple of days.

Violet's mother described the change in her once outgoing daughter,

It seems like she's struggling. She's lost a lot of confidence, feeling like she can't trust people friendship wise, and she doesn't feel very outgoing. Now she'll just be quiet and go sit by herself. And that's not how she used to be before COVID...She's just kind of shut down.

Along with students displaying signs of social anxiety and attachment issues, they were also having more meltdowns in the classroom. Shannon and Alfie's mother, a teaching coach, explained this trend,

Teachers have told me that about every 20 minutes, somebody has a meltdown. You have to pick them up and wipe their tears and put them back together before you can go on with anything...I hear that across the board from teachers. Students are like two years behind, socially emotionally.

Luke no longer reached out to make new friends now that he was back at school, "I ask him every day, who did you play with today? And it's always one boy from our learning pod. It's been challenging for him to branch out...I don't think he's connected very much with other kids."

Teachers reported that children did not know how to behave in the classroom once they returned to in-person learning. Students were behind socially in how they conducted themselves and communicated with peers and their teachers. A mother of twin boys decided to

hold her sons back and they repeated kindergarten because they did not know how to behave and were socio-emotionally behind, “They had no idea how to sit in the classroom, because they went to preschool for a few months and then lockdown happened, you know? So, they really needed that.”

Teachers recounted stories of having to give lessons to their students that fell well below their current grade level. One teacher explained that these were “the little lessons that teachers don't even have built into their day, they didn't get learned.” James and Violet’s aunt is a third-grade teacher. She read the story, *Too Much Glue*, to her students. She said, “I’ve never in my life encountered third graders that didn't know not to use too much glue...they're at a first-grade level of glue using.” James’ mother described her second-grade child, “my son's at a kindergarten social level.”

Another teacher and caregiver shared a similar observation about her students. At the beginning of the school year, students left the classroom whenever they wanted to go to the bathroom or to eat snacks without asking permission from a teacher,

It was really interesting when they came into the classroom as third graders. I would expect that they would know how to sit in their seats, they would know you need to show a bathroom sign, there’s certain rules like you don't just like get up and leave the classroom for whatever.

Teachers and parents described an increase in peer conflict since the return to in-person schooling. They blamed this change on social isolation, decreased socio-emotional skills, and the trauma of the pandemic. Eve and Bria’s mother shared, “I feel like my girls are having a hard time socializing. Being away from people and interaction, and then coming back, she has reported a lot of conflict...I can definitely tell that it is COVID related.”

James started coming home from school with bruised legs from another student kicking him at school. Another little girl threatened to murder him. Referring to the isolation during virtual learning, his mother stated,

I think kids learn so much when they're sitting right next to each other and they're learning things like not to pick their nose, not to punch each other, personal space and boundaries and social norms. And there wasn't any of that.

Spencer's mother also discussed the increase in peer conflict at school.

He got into this altercation with some boys about a month into school. Apparently, these boys and my son were so fed up with each other that it almost came to blows and they told me that they had to remove my son out of the class for his own protection.

She believed that COVID played a role in decreased social emotional skills and increased conflict, "I knew because he'd been home with his little brothers all this time, he just hadn't had that growth."

Teachers also reported a decrease in frustration tolerance from their students, especially for those with disabilities. This caused a loss in risk taking and learning new skills and strategies. Benson's caregiver, a third-grade teacher, explained this change,

Another gap that I've seen is the social piece, knowing how to work together in a group and collaborate has been a huge thing that we've worked on. Another theme is kids taking risks and being okay with making mistakes and being okay with having those challenges...I would say 95% of my class, that is a huge thing that I have had to work on with all of these kids; teaching them it's not supposed to be easy all the time. You're supposed to be challenged, that's a positive thing. And that's across the board. The second it gets hard, they're like, 'nope'.

Natalie's frustration tolerance decreased after being back in-person for school and she struggled with learning,

My daughter was in kindergarten and just missed a lot of learning. And she has struggled through the past two years. I think that some of that is social emotional, from COVID. There's an element of just accessing frustration easier because she felt it so readily available at her fingertips before. She wasn't actively learning.

For children with disabilities, these socio-emotional skills were hit harder than for their peers. For those who already were behind their peers, the struggles of the pandemic and social isolation and lack of social experiences caused regression. Vanessa was developmentally delayed. Her mother discussed the difficulty of her transition to middle school during the pandemic,

She's definitely very immature for her age, she loves to play with dolls and babies...Socially it's really tricky for her especially now that her peers are in middle school. In elementary school, it was not as obvious but now it's light years difference between her and her classmates, both physically and from a maturity standpoint. We'd be struggling with that without COVID, but I think the differences just grew more obvious. The timing of COVID happened to be when there's that big leap in maturity from starting middle school and it just didn't happen with her.

Alex, who has autism, also fell behind his peers socially. When his peers went back to in-person school, Alex's mother kept him home longer due to having an auto-immune disorder. She said it felt like 'we lived on our own little planet.' She witnessed some of the repercussions on her son's social development, "He's struggling to make a connection. He was virtual in kindergarten and first grade, and a lot of people at the school didn't go virtual. So, he feels out of place with everyone and it's hard for him."

## **Conclusion**

For children with disabilities, the chaos, uncertainty, and new forms of education during the pandemic increased their social vulnerability and risk of poor outcomes. Plans for continued learning during an inverted disaster, like the pandemic, were not in place and schools were unprepared to provide equitable educational experiences for students with disabilities during school closures. Structural barriers to education and therapeutic services increased. Students with disabilities did not receive modifications and accommodations that would allow them to

access learning from home. They lost access to classrooms and services, were excluded from learning with their peers, and their abilities were not assessed and diagnosed by educators. These structural barriers led to inequitable outcomes for these students. As an already at-risk population, students with disabilities experienced setbacks in their educational progress, physical health and development, mental health, and in their socio-emotional skills as they were increasingly excluded from learning.

The findings presented in this chapter support research on the social vulnerability framework which argues that children with disabilities are vulnerable academically, psychologically, and physically (Peek and Stough 2010). Parents and teachers witnessed a decline in educational progress for children with disabilities, including basic reading, writing, and math skills, as well as in other subjects. For many students, the lack of assessment and identification of need played an additional role in their continued decline in academic progress. Students who were unidentified as needing special education supports faced double disadvantage as diagnoses and initial plans for intervention were delayed, access to services was lacking, and a backlog of new cases created further delay in services after the reopening of schools.

Physical vulnerability also increased for children with disabilities. A loss of medical interventions and therapeutic services caused setbacks in speech, occupational, and physical development. Masks contributed to the decline in speech development. Students with disabilities also missed more in-person school days during the pandemic.

Students with disabilities were psychologically vulnerable to mental health issues. Because these students thrive on routine, the disruption caused by the pandemic led to

increased stress, anxiety, and behavioral issues. These children were more isolated, experienced emotional trauma, and depression increased. The lack of mental health services during the pandemic contributed to these issues.

The outcomes of school closures on students with disabilities went beyond those outlined by the social vulnerability framework. The pandemic presented a unique phenomenon in which the invisible threat of the virus caused school closures and a breakdown of social support systems. Families were isolated in their homes and students with disabilities did not receive the level of in-person socialization they needed for their development. As they were often excluded from the general education classroom, a place of peer-to-peer socialization, they were increasingly vulnerable to a regression in socio-emotional skills. The barriers to the classroom compounded with stay-at-home order placed these students at risk.

Social skills were impacted by social isolation and the need to wear masks in the classroom. Students experienced an increase in social anxiety and peer conflict, as well as a decrease in appropriate classroom behavior and frustration tolerance. These consequences impacted children with disabilities not only during initial school closures, but also following the return to in-person schooling, and potentially for years to come.

While children with disabilities were disproportionately impacted by school closures and pandemic learning modalities, their parents also struggled with the emerging expectations of their roles as teacher, special educator, and therapist. Along with new roles, their homes became a conflicted space in which they felt a loss of control as classrooms and workplaces encroached on their privacy. Parents also reported an increase in interpersonal conflict and a lack of supportive systems and relationships. In the next chapter, I will share the results of

interview data that address these impacts of education during the pandemic on parents' roles, spaces, and relationships. Later, I will use survey data to show how mental health was impacted by these factors.

## CHAPTER 6

### CONFLICT IN THE HOME: ROLES, SPACES, AND RELATIONSHIPS

The purpose of this study is to understand the challenges faced by children with disabilities and their families during the pandemic as they experienced changes in schooling, and how families mitigated these challenges. In the last chapter, I examined the impacts that the pandemic and changes in schooling had on students with disabilities. I found that due to exclusionary educational practices, children with disabilities fell behind their peers academically and socially. They were also experienced negative impacts to their physical and psychological health.

In this chapter, I turn to the impacts that pandemic school changes had on parents and the family. I explore the role that conflict played in the lives of parents during the pandemic. The following research questions will be answered in this chapter:

2. How did shifts in education differentially impact students with disabilities and their parents?
  - b. What specific challenges did parents face?

During interviews with mothers, one issue that arose consistently was the concept of role conflict and role strain as they attempted to balance the expectations of being a mother, but also a teacher, mental health counselor, friend, and recreation coordinator. For children with disabilities, this also meant taking on the role of special education teacher, therapist, or medical caregiver. Mothers especially struggled with the added role expectations as gender roles became more embedded in family relations due to the nature of the inverted disaster.

In addition to role conflict, parents also experienced strain on their spaces, as homes became spaces for work and school, along with being a place to live and play. The space of the home, the shelter in the storm, became a place of conflict that took on roles of workspace and school space. Mothers were forced to transform their homes and felt a loss of control within that space. Role Conflict added to this confusion, as children had to adjust to their mother taking on the teacher role, while their home became a place for school, rather than play.

Along with these conflicts of space and roles, mothers also reported an increase in interpersonal conflict, as relationships with children and spouse, extended family, and friends were strained due to pandemic pressures, role transitions, social isolation, and disagreements regarding politics and safety precautions. In a time when parents needed support from their networks, these conflicts contributed to negative experiences and mental health outcomes.

In the following sections, I examine the impact that traditional gender roles had on mothers during the pandemic, adding to their familiar parenting responsibilities. I will draw on qualitative interview data to show how these changes in family life and roles contributed to conflict in the space of the home, in newly acquired roles, and within interpersonal relationships, adding to the strain of pandemic life. These conflicts are particularly salient in the lives of young children with disabilities, as they are more vulnerable to psychological impacts during an inverted disaster.

### **Gender Roles**

Two men participated in interviews for this study. Most interview participants were women (n=37). These mothers, foster mothers, and other guardians acted as the primary caregivers for their children during the pandemic. This was due to several factors. As addressed

in Chapter 4, fathers were more likely to work outside the home prior to the pandemic and even after stay-at-home orders were in place. They were more likely to be employed as ‘essential’ workers. For example, Shannon and Alfie’s father worked in construction; Stan and Lina’s father worked at an essential business. Three of the fathers in this study were deployed for military service during the pandemic. Others worked as first responders, shop owners, and retailers in essential fields.

Mothers were more likely to be considered ‘non-essential’ workers prior to the pandemic or were able to arrange work-from-home status with their employers due to parenting responsibilities. Some of the mothers in this study were also stay-at-home mothers prior to spring 2020. One mother in the study was disabled and did not work.

The mothers in this study took on the primary responsibility of schooling and parenting, and keeping children occupied and entertained during lockdowns. They helped their children with logging into school, completing their assignments, turning in their schoolwork, taking them outside for walks, providing recreation, and finding ways to connect them to outside family and friends.

Mothers were more likely to be at home with children during the pandemic, yet even in the cases where fathers were working from home or were unemployed, the mothers reported that they took on most of the caregiving responsibilities during at-home and virtual schooling. Luke’s mother worked from home, ran a pandemic pod two days a week, and continued to maintain the household while her husband worked from home behind his office door. She ran back and forth between rooms checking on each child. “It was a real challenge for me. And

really, I'm the one who did school. My husband, his job was to not get fired and keep an income. That was his job.”

Alex’s mother was a stay-at-home mom before the pandemic began. She was just starting to apply for jobs outside of the home when schools shutdown and she was frustrated at the sudden change to her plans. “I did not get to go back to work like I wanted. I had to stay and become a second-grade online teacher, for my son...I was frustrated. I felt like I had to put my career on hold.” She noted the difference in gender roles between her and her husband. “He was the breadwinner, so he didn't really get involved with the computer work. And so, it was all on me to help my son and daughter.”

Fathers who were interviewed shared similar observations of how gender roles worked in their homes. Danny’s father shared the following sentiment about his wife’s role,

My poor wife working a full-time job, lots of responsibility...My poor wife because she's home while my kids are home. I was home too, don't get me wrong, but I had doors closed while I was working. She would be between meetings and helping the kids and getting lunch. She was teacher full-time and working. She was doing both. She bore the brunt of it.

As shown in the above accounts, although many fathers were at home during the pandemic and virtual schooling, they were often behind “closed doors,” maintaining their status as the breadwinner and leaving their wives to take on the newly defined caregiving roles for their children. This reset to traditional gender roles in the household caused mothers and fathers to have strikingly different experiences regarding the pandemic and their roles as parents. Fathers were responsible to their employers and as breadwinners. Mothers, however, took on the ‘second shift’, caring for the children and home. What was unique about the inverted disaster context was the fact that this second shift was expanded to include

educational and therapeutic responsibilities and it was indistinguishable from the first shift, as mothers worked from home while managing their new parenting roles, all while under quarantine.

Mothers who did not have their spouses in the home during the pandemic and at-home learning felt their gendered experiences as parents were separated by a gulf of difference, causing a lack of understanding between spouses. As Andrew's aunt explained, her husband did not experience the pandemic in the same way as she and her children did due to his continued work outside of the home.

Nothing ever changed for him. He can't grasp what we all went through...I mean, mentally he never dealt with anything that we dealt with. There was a point in May when he said something. And I said, 'You do realize that the kids haven't even gone to the park.' He said, 'what?' He just did not have a grasp of what we were all dealing with because he got up and went to work every day.

Elisa's mother and father experienced the pandemic in quite diverse ways due to her father's deployment during that time, "He missed most of the real craziness...Oh, my gosh, that was just awful. I always try to do the best I can with things but that was a whole other level of hard."

Because mothers and fathers had separate experiences after falling into traditional gender role patterns, they described a sense of being misunderstood and disconnected, potentially leading to further conflict between spouses.

For parents of children with disabilities, mothers of higher socioeconomic status reported that fathers who worked from home were more engaged with parenting and at-home learning during the pandemic. This appeared to be partly due to the intensive needs of these children. Parents reported that they had to sit with their child with a disability throughout

schooling and provide hands-on assistance. Without constant supervision and support, their child would have been unable to participate in school. While mothers primarily took on this responsibility, fathers also helped and took turns with mothers in this role. These parents had the advantage of economic stability, as well as knowledge, resources, and time to devote to education for their children.

As Billy's father explained, he and his wife were both able to work from home and had flexibility in their schedules. He described how they managed, "by the seat of our pants." He went on to share how they managed their son's needs. "When Billy had quarantine, we would say, 'Okay, who's doing what today? Who's got meetings they can't miss? What does our day look like?' And we'd oftentimes say, 'I'll take the morning and then you take the afternoon.'"

Spencer's mother and father both helped Spencer, who has autism and a physical disability, while his mother primarily helped their younger twin boys.

That's one of the reasons my husband stayed home so long was because he and Spencer sat across from each other at a table for that year. And it was hard because we had to split up the kids every single day.

While in these cases, parents divided up the schooling supervision for their children with disabilities, the employment of fathers still took priority. As Spencer's mother continued her story, "And he was in constant meetings at work, and when he was in a meeting, I'd have to take Spencer out of the room because he wanted to see who it was and would interrupt."

Lori's mother observed that it was more difficult for her husband to be involved in the parenting and educating than for her, "It was very difficult for him, he is not a teacher, even though he's more involved than most husbands are because I make him, he's not at that point. He still wasn't as involved." She eventually became overwhelmed with schooling for her two

children, one of which has a developmental disability. She insisted her husband help with the schooling. She explained how traditional gender roles impacted this experience.

And it was because the scope of work had become too much that I couldn't manage. I couldn't manage all of that and manage all the rest of the things that I had to do as well. I would say it was a good experience for him, but definitely taxing for him as the traditional male of the household with the traditional responsibilities to have to be sitting next to your kid, learning fourth grade material. It definitely does not feel good.

While fathers who worked from home were more likely to be involved in the education of their children with disabilities during the pandemic, it was clear from interviews that the primary burden was on mothers. Fathers acted as a backup for mothers in this role and the priority lay on his employment, even when parents shared equally in earning income for the household.

### **Space Conflict**

The pandemic was a challenging time for families. As parents relied on traditional gender roles to divide up parenting tasks and responsibilities, the traditional role of the home as the 'woman's place' and as a place of 'safety from the storm' were also uprooted. The home transitioned from being a private space for living, rest, and rejuvenation, to a public and multi-use space for virtual work, school, and play. Parents had to make do and convert their homes into a livable, workable, schoolable space. Parents who were financially resourced purchased new furniture and accessories, such as desks, chairs, curtains, and room dividers. While most children already had computer equipment provided by their schools, these parents also purchased new technology to aide them in school and work. Rooms were divided up into classroom space and workspace.

Mothers eased this transition by designing spaces to accommodate their children's needs. Many children were initially excited over the changes to their space to make way for virtual schooling. As Alex's mother explained,

We set up a computer in Alex's room. He thought it was super cool at first, like he's gonna take a call, just like daddy takes a call downstairs. I went online and found all these sayings and positive affirmations, and I printed them all around the top of his desk.

Alice also enjoyed the changes, "My daughter embraced it in some ways. She has a lofted bed with a desk underneath. She created a curtain behind her so that she could have her own little background." While Alice initially enjoyed the change to her room, her mother described their home arrangements as isolating. "We all just sort of went in our little room for seven hours a day." Alice's mother worked out of her craft room, while her daughter used her own bedroom, and her son did school from the basement.

These changes to the safe space of the home were forced upon families by a global health crisis, outside of anyone's control. While children were originally excited about these changes and mothers did their best to make the experience a positive one, the transition was difficult to manage and, in some ways, felt like a violation of the home as a place of retreat from the outside world. The home is often entwined with women's identities and mothers work to make it a space that is safe and comforting for their families. Having this space violated was especially challenging for mothers, as they were emplaced in their homes during stay-at-home orders, yet they had lost control over the use of the home space.

Families attempted various reconfigurations of space to better serve their needs during the pandemic and lockdown period. Some families separated themselves into separate rooms, while others shared one living space. Arrangements tended to be made based on the need to

minimize distractions, but these efforts were not always successful. In some cases, this led to increased distraction and unintended isolation.

Sam and Julie's mother tried to lessen Sam's distractions, but realized she was only making him feel more alone.

Our son, we carved a little niche for him in our living room. We have a little nook area, so we made that his place. The point was to keep him free of distraction. He got really lonely, and he didn't like being out there not interacting with anyone. So anytime someone would walk by, he would try to engage, because I think he felt quite isolated. He was also very noisy there. So that was somewhat of a distraction for us.

Luke's mother explained how a fellow learning pod family set up their basement to make room for virtual school, but this also created distractions, "The dad literally built desks, which was pretty magnificent...So they took the couch out and they set up their basement, so they had desks that would face each other. That was good, but then slightly distracting."

Families struggled to find the space to conduct work, school, and play. Blake and Joy's mother became homeless during the beginning of the pandemic. She described the difficulty in sharing a hotel room with her two children, while they participated in school, and she had to work from the hotel room. Stan and Lina's family moved just before the pandemic hit and found their smaller home was not ideal as a shared space during the pandemic,

It was a smaller home. We didn't have a fenced in yard anymore, and we didn't have our basement for the kids to play. And then suddenly, when you're taking away all social time, and even parks were closed, it was like all you have is your home anymore. And when our home went down by half the size that it used to be; no basement, no yard, it was like, this is gonna be rough. How are we gonna do this?

These changes to the home space caused a strain on families and on their mental health. Mothers reported that this change was stressful and made them feel like outsiders in their own home. Some reported that having cameras on constantly made them feel under a

microscope, as teachers, therapists, and co-workers had a virtual window into their home space and family life. Not only were mothers faced with the strain of their new parenting roles, but their ability or failure to meet expectations were constantly observed by outsiders.

Eve and Bria's mother found it difficult to share her apartment with the children in her children's pandemic learning pod. When asked about her challenges during the pandemic, she answered,

But again, that space component because having five kids in my apartment Monday and Wednesday, was a lot. The oldest kid was in middle school. She just needed to have headphones on and she picked a corner in the living room. And then there's two kindergarteners together, which was not a very good idea because they would get distracted. I eventually had to separate them. But we made it. We made. We made it. But it was hard.

Andrew's aunt felt uncomfortable in her own home. Sharing the space for living, working, and schooling created chaos and mess. "There's days you do your house cleaning like OCD. Everything has to be perfect. And then two minutes later with my kids, they just trash it anyway. That's the hardest part, everyone at home. It doesn't stay clean."

The shared home/school space made it difficult for children and parents to adjust. Todd's mother described how the merging of home and school created difficulty for her son to focus on at-home learning and complicated her role as mother and teacher,

The remote piece was a little difficult to navigate while working from home and trying to do his schooling. I think he does better in an environment where he knows when I'm at school, these are the things that I do. When I'm at home, I get to kind of be free, and that's my time. I think it was a hard shift for him to make that you're my mom; you're not my teacher; this is my bedroom; that's my classroom. I could see that challenge for him to understand or accept that we're having to learn from home.

Some mothers in the study described how having their husbands at home created merged roles that were confusing and frustrating. James and Violet's mother described her husband as hands-on when he is at his office,

Which honestly sucked for me, because he was used to working at his desk and then taking his coffee and walking over to the bench or to customer service. But when he was doing it at home, it was just me. So, I'd be cleaning the toilet. And he'd be like we need to talk about our finances. Read the room!

Liam and Olive's mother experienced a similar issue with her husband as her greatest challenge, "It was challenging, just having him working here. And then the kids being here, and our house is not that big. My husband is in the basement so the kids can hear him, and they want to go bug him."

This merging of space and roles created an unwanted hostile environment for some parents. James and Violet's mother did not push James, who has a speech delay and struggles with learning, with his schoolwork and believed he would be able to catch up later with his education. She prioritized making her home a peaceful place,

I've never wanted to be a teacher...I would look at what they were working on, and we would participate, be present for class. We would do maybe one or two things. I'm a pushover. And I also felt like, I'm not going to set this up where they hate this. It was really important to me that our house wasn't a battleground because it was our only place. And I just didn't want him to hate school.

The merging of home with work and school made Shannon and Alfie's mother feel powerless in her own home. When asked what her greatest challenge was, she responded,

Being so controlled by school at home. I didn't like that school was telling me what to do in my own home. I had some pushback about that from my kids. They would say, 'I have to be at school, I have to be logged in.' And I was like, well, you're at home and you still need to do your chores. So, we had a lot of struggle with that...I felt a lot of loss of my own power in my own home, because school just dictated so much.

One example she shared was how her children's lunch and break periods were at separate times of the day. She was upset that everyone in her home was always separated, and they could not even eat lunch together at one time. "We were having to all eat lunch separately. And it was just such a yuckiness to it and such an isolated feel to it."

As shown above, the changes to the home during pandemic lockdowns set up a complicated arrangement of living, working, learning, and playing within one space. These changes were necessary as parents faced an inverted disaster, in which the invisible threat to public spaces forced families to isolate and emplace themselves in their homes. This space was adjusted and renegotiated throughout the pandemic, as parents found arrangements distracting, isolating, or conflictual. The inverted disaster was temporally unbounded, and as it impacted families in waves, parents had to continually adjust to the uncertainty and to changes in expectations. As the home space was going through these transitions, parents also found that the changes to space complicated their roles in the home. Parents had to negotiate their own role as parent, while also managing work and school, adding to role conflict and strain.

### **Role Conflict**

In addition to space conflict, mothers also reported a sense of role conflict. As they took on new responsibilities, not just as mother, but also in the role of teacher, therapist, and friend. Parents struggled with these new roles and could not keep up with the conflicting demands on them. Mothers in this study shared their struggles with their new role as teacher.

### ***Caregiving Roles***

Elisa's mother explained the challenges of negotiating the roles of parent and teacher.

The biggest challenge was trying to figure out how to do school at home, how to complete a workload. At home, how to be the teacher for them, but not be the teacher,

because they still had their teacher...I was just kind of the backup, the support to their teachers who could only do so much from home as well. And so, getting them to complete their work, and trying to keep everyone happy. That was impossible.

She went on to describe how she felt trying to take on these new role expectations. She believed there were too high of expectations placed on the children which frustrated them and her,

And I don't know how to teach, right? Most parents are not educators, they weren't taught how to be schoolteachers. I didn't want to give them too much help or too much information, too many answers. I would want them to do what they could do first, and I think maybe they expected me to help them more. That was really hard to figure out, how do I help them? How much do I help them? And how independent do I let them be to try and figure things out on their own? Yeah, that was rough.

Eve and Bria's mother explained how her younger daughter, Eve, adjusted to her mother's new role as 'teacher,' "When we first started, she understood that I was ultimately role playing. And so, she was telling me' Mom, when it's time for school, you're not my mom, you are a teacher. And I'm going to call you, teacher."

This conflict between mother and teacher created pushback from children/students, as Roy and Vicky's mother explained, "It's different when Mom tells you to do something versus your teacher, you know, you don't try as hard when mom tells you, I guess. You fight it a lot more."

These mothers struggled in their newfound traditional gender roles and roles as teachers, along with their children. For children with disabilities, understanding this blurring of roles may have been even more challenging.

Mothers of children with disabilities had additional challenges as they had to act as special education teachers and paraprofessionals for their child. In this way, the intersectionality of gender and disability created greater disadvantage and pressure on women

during the pandemic. Spencer's mother felt relieved once the school day was over, "School stuff was awful. But once school was done, I get to just be mom. Before that, trying to be teacher and mom, that was hard."

Stan and Lina's mother described her day as teacher/paraeducator for Stan, who was unable to focus on virtual learning,

My job every day was I just sat with him all day when he did remote learning. That was my job. I just sat with him and tried to keep him on task as closely as possible. And that way, if he was in his own little world, doing his own little thing, at least I could hear what needed to happen so that he and I could come back and visit it later. And that was all I had to do was just sit with him. And basically, just help him through it. Because he's struggling.

Veronica's mother took on multiple roles during the pandemic. She felt lucky that she had worked in special education and had some familiarity with how to use modifications in the classroom setting,

I'm playing four parts. I'm Mom, I'm Teacher, I am the IEP manager, and also really kind of building her own academic progress with her own academic lesson plans. And that was big. That was hard. That was a support I just didn't get. It wasn't available. It wasn't. And thank the good Lord, I just knew already how to do some of the modifications. But then how do you get a child to pay attention to a screen that doesn't have an attention span? But it was extremely difficult. I was playing four parts.

Parents not only had to act as teacher for their children, but also as therapist. Mothers reported that speech, occupational, and physical therapies were unsuccessful in the virtual format. They chose to either let these needs lapse or they had to take on the role of therapist themselves. Some mothers worked with their child's therapist virtually and then implemented the lessons with their child face-to-face. Others searched for their own answers online and tried their best to assist their child with speech and physical issues. Mothers of higher socioeconomic status and those with a partner in the home, were more able to provide these services to their

children, as they had the resources and time to meet with therapists or research therapeutic strategies. Mothers who had to go to work, lacked financial resources, or were parenting alone, lacked the time and ability to implement these practices. This placed their children at a greater disadvantage during school closures.

In addition to speech, occupational, and physical therapies, mothers also took on the role of mental health counselor for their children. As addressed in Chapter 5, parents reported that their children experienced emotional trauma, social isolation, anxiety, depression, and behavioral meltdowns. During lockdowns, mothers had to take on the mental health role of identifying these issues and doing their best to address them. Roy and Vicky's mother described the struggle of taking on these multiple roles,

That was a huge thing that parents were like, wait, I don't know what to do about this. They're acting out. They're bored. How do we handle this? We're not educators. We're not counselors. How do you navigate that, when you don't have those [professionals] at your fingertips, it would be a big thing to try to navigate by yourself.

Vanessa's mother found it difficult to take on this mental health role at a time when she herself was struggling,

It was probably the hardest year for me. Just because, you know, as moms we tend to carry the mental load of the household, the emotional load of the household. I'm an empath. Like a strong empathic, I tend to carry everybody's worries and problems and all of that. And so, it was very trying for me to try to keep my family okay.

She went on to share how draining these conflicting roles became. "I'm a creative person...My desire to do any of those things creatively of my own will was zero. I was depleted, I had nothing left to give at the end of the day." For mothers who had a child with a disability, their child's level of needs influenced the number of new roles mothers took on. Each additional role

placed added strain on mothers and their mental health. This role conflict and strain not only significantly impacted mothers, but subsequently affected the wellbeing of their children.

### ***Conflicting Roles***

As many parents were also working from home, this created challenges for their work productivity, additional conflict within the home, and feelings of failure. Parents attempted to balance these responsibilities but found it challenging. Joey's mother explained how difficult it was to monitor all her children and foster children, while also working from home. "It was just me trying to balance work, and then helping four kids who all need computers and who all need to be monitored and have help. It was nearly impossible to get it done, much less well."

Natalie's mother could not keep up with her daughter's schoolwork due to her work schedule outside of the home.

It was extremely difficult to show up for my kid inside of her schoolwork. And then I would have been forced to work harder. I remember being up with my kids until 9:30 at night. I have to wake up myself at 4:30 in the morning. I definitely was trying, but I didn't feel like I was accomplishing much.

Billy's father confessed that his work suffered. "I did the bare minimum to get by at work. Something had to give. I had to fail at something. I did the things that I was contractually obligated to do, but everything else, I couldn't do." Vanessa's mother shared a similar confession, "I work from home, but I have a fairly flexible schedule...But it did basically make it so I couldn't work at all during COVID because of managing three online schools."

Todd's mother tried to coordinate her work breaks with virtual schooling. She asked her boss for leniency with her work deadlines. "It was a struggle to try to juggle both of those." These negotiations caused some parents to have anxiety. Brian and Megan's mother worried,

“Is my employer going to be understanding, or are they rolling their eyes behind the scenes. That, to me, just manifested in a lot of stress and anxiety.”

Parents had to accept that they were unable to be as productive in their jobs as they were previously. Luke’s mother explained this challenge.

For me, it was also very challenging, this was definitely more an internal struggle, but to release expectations of what my work was going to be in that time. Because I had certain expectations of how much I could work or how much I could produce, or how ambitious I could be in my work. And that just had to fall away, I had to shift priorities. And it was a challenge.

While parents took on these roles during the pandemic, they were also expected to complete their work assignments. The added burden was stressful and led to additional role conflict, interpersonal conflict, and a decline in mental health. During a time of normalcy, or even during a typical disaster, parents can reach out to professionals, extended family, and friends as their systems of institutional and social support. As described in Chapter 4, parents lacked that form of support during the pandemic. As an inverted disaster, families became isolated, contained units, and most families were unable to have in-person contact with their support persons. This added additional strain and a reprioritizing of roles.

For parents with multiple children, some chose to prioritize the needs of the children without disabilities and placed less attention on the child with a disability. They were afraid their non-disabled children might fall behind in school and they felt less concern over the progress of their child with the disability. This was especially true for children with severe cognitive disabilities. Lori’s mother explained how difficult it was to make these choices. “I think to have to do that and watch another child struggle because you have to help this child, that

was hard. That was some disappointment that we felt was that we just couldn't be there for both.”

Elisa’s mother had similar regrets over her situation. She was unable to give all her children equal or equitable attention during at-home and virtual learning,

I hate saying this because I feel even worse as a mom, but I did not have the time, or I was not able to focus on her schooling because I was trying so hard to help keep the other two focused and to get their stuff done. She definitely got the short end of the stick.

Patty’s mother could not focus on her youngest child’s education due to the constraints on her time and the needs of her older children. “We just forgot the preschool stuff. She got the short end of the stick. We didn't participate, it was impossible because we were both at home working and trying to support the other two, as much as we could.”

Sadly, while children with disabilities were not receiving an equitable learning experience in the classroom, in some cases, they were also handed the ‘short end of the stick’ at home. Mothers made choices between their parenting goals that did not always prioritize their children with disabilities. Role strain directly impacted the ability of mothers to meet expectations. As they were strained by work-from-home and new parenting roles, the additional role of providing special education and therapies for their disabled child often pushed them past their breaking point, causing them to deprioritize their child’s needs, further exacerbating their child’s social vulnerability.

### **Benefits of Staying Home**

Although role conflict and strain drained parents, some parents experienced benefits from these changes to their parent-child relationships. Mothers believed that being home with their children during the pandemic allowed them to take stock of their lives and grow as

parents and as people. Some parents thrived on the engagement and accountability they were able to take in their children's education. Becoming an active participant in their child's schooling was a positive experience as they were able to become more involved with the day-to-day schooling. They observed what their children were learning, how their IEPs were implemented, what was working for their child, and what was not working. They were able to make decisions about their child's schooling based on these observations. Finally, mothers shared that their families formed stronger connections during this time at home together. Mothers who reported benefits were most likely to work from home, giving them the flexibility to make these connections with their families.

Mothers took stock of their lives during the pandemic and made changes to improve their family wellbeing. As Stan and Julie's mother explained, "One thing that I think I recognized is how fast paced and how intense our lives were. And COVID forced us to slow down a bit. And just rethink things, reevaluate." She went on to share how her family is taking more time to be together as a result. Brian and Megan's mother shared a similar sentiment that family is her new priority over work. She came to realize that "on the plus side, family matters first. If my employer needs to be told, I can't come in today because my kids need me at home, that should be a priority, that should be okay, even without COVID." She was grateful that the new norms around her office have become more flexible and understanding of family needs.

Emma and Rosalie's mother felt she had grown during the pandemic,

I definitely have grown insane amounts in the last two years...I feel like I have more skills now than I had before, just through the challenging times. And I think I'm better at work life balance type of stuff than I was two years ago. I think I've got my priorities a lot straighter.

Mothers also expressed their gratitude that they were able to become more engaged and accountable in their children's lives and their educations. These mothers were more likely to have higher socioeconomic status than their peers. Their status allowed them the flexibility and resources to become more involved in their children's learning. Luke's mother shared, "I was able to participate in Luke's education in a way that would have otherwise never happened. It was hard and yet so great." Spencer's mother expressed a similar sentiment,

It gave us a second to reset and actually watch our kids grow for a bit, even though they were struggling, and we had to really step in and be parents. In a way it was kind of like I was given that opportunity to spend more time with my kids.

Some parents realized that they could make changes to their child's schooling after handling virtual school. Blake and Joy's mother realized her children were not in safe schools prior to the pandemic. The changes in schooling gave her a window into their experience and provided the opportunity to move them to a safer neighborhood and to an all-virtual school. Without the pandemic, she believed she would not have realized the problem before it was too late. Lillian's mother observed her daughter's classroom experience, and it opened her eyes to problems with Lillian's teacher and the intolerant culture of the classroom. She and her wife made the decision to move their daughter to their neighborhood school.

Mothers of children with disabilities were enlightened about their children's educational experiences and were able to step in and advocate for their children. Kelli's mother did not realize how difficult school and speech therapy were for her daughter. "She just would not stay on one activity for longer than 10 seconds. It felt impossible." After she observed the issues, she took accountability in managing her daughter's speech therapy from home.

I really had to get out of my comfort zone as well and just take her advice. I do everything, and [the therapist] watches instead. It was honestly good as well because it got me out of my comfort zone. It made me practice the things that she's suggesting.

Lori's mother was enlightened after observing her daughter's virtual classroom experience.

Up until that point, I don't think we really understood what her day was like, how it was structured, how engaged she was in the classroom, the kind of support that she was being offered. There was a huge learning curve for my husband and I to see really the picture of what was happening versus what we thought was happening. It was a big disconnect.

She went on to share that this "eye opening" experience allowed them to become more involved in assuring that education was accessible to her daughter and that access was proactive instead of reactive. Mothers of higher socioeconomic status took advantage of their flexibility to work with their children, observe their classroom experiences, proactively correct for structural barriers, and then advocate for their child's needs. Having these advantages impacted their child's experience, not only during the pandemic, but likely in their future schooling experiences as well.

On a final positive note, mothers shared that their families have formed stronger bonds because of their shared time at home and shared experiences. Parents tried to maximize this opportunity and were grateful for it.

Blake and Joy's mother described the change this way,

Nothing could have prepared me for being able to have that extra time with my kids and what that would mean...I actually got my teenagers back during a time that they're often having the push away both from a societal expectations lens but also because that's what they do and like it would have been normal and I expected it and yes it would have been hard but I was prepared for that. Instead, I got this time with them.

Roy and Vicky's mother explained that when work and extracurricular activities were cancelled, she was able to get some of that time back with her children, "There was also a lot of

family time, and everything shut down...It's just kind of nice to eliminate a lot of that stuff. So as much stress as there was, there was also a lot of bonus and downtime.”

Other parents commented on the stronger sibling bonds they observed between their children. Breanna’s caregiver noted, “I think something positive that I've noticed, even more than before COVID, I've seen strong sibling connections, or more siblings sticking up for each other, kind of just being on the same team.” Shannon and Alfie’s mother was happy to see her children working together during pandemic learning.

I love to have my kids work together in spring of 2020...My kids would share their schoolwork stuff with each other. My stepson would be like, ‘Hey, I have this virtual field trip. Do you want to watch it with me?’ And so, I have pictures of them sitting on his laptop together on our couch, doing a virtual field trip. And I'm like, how sweet is that?

### **Relational Conflict**

The space and role conflicts discussed in the previous sections likely contributed to interpersonal conflict in the family. Mothers reported that conflict with their spouses, children, relatives, and friends increased during the pandemic.

Within the home, mothers reported an increase in spousal conflict. They shared their struggles with their partners during this time. For some, their partners were deployed and did not experience the pandemic in the same ways as their families did. This made it difficult for them to connect. Other fathers were working outside of the home or in a separate office space within the home. This added strain between parents.

Elisa’s father was deployed during the pandemic. Her mother was able to talk to her husband on the phone, but their two separate and gendered realities created a divide, and she would take out her frustrations with pandemic life on him,

There were a few moments where I would be so up to here with the kids that I would sometimes start to let it out on him. And he would be like, 'Alright, I'm gonna let you go'...So, it caused conflict between me and him I think in that sense, it created more tension and sometimes lead to conflict because, you know, feelings. I'd be like, 'Oh, you don't get it.'

Conflict arose once her husband's deployment ended in November 2020 as he adjusted to life at home during a pandemic. Her parenting style had changed because of pandemic life, and he had trouble adjusting to the 'new normal,'

He would get frustrated, or he would almost be more nitpicky with the kids after he got back for a while, because he was trying to get things back to where it was when he left. But we had just gone through this crazy War of 2020, eight months, from March until he got back.

Other mothers shared how the separate experiences that spouses had caused tension. Andrew's aunt described the conflict this way, "There's been more. There was a lot for a while. Some of it, I think, is just being stuck together, and some of it is me really under stress and him not understanding what I deal with every day."

Kelli's mother shared how her husband decided to go back to work sooner than she felt comfortable with. This added conflict between them, and she described how he recently had COVID-19 due to going to work. "It was a big disagreement. I wasn't comfortable with it. But he did it anyway. I mean, even the other day, he had a job and he thought he had a cold. And turns out that he had COVID." She believed the divide in their gendered experiences caused regret and resentment.

There's definitely a lot of resentment that builds I think for both of us. Because, for me, I want out so bad. I'm like, you're lucky you get to work. And I get that that's a normal concept, even without COVID. Before COVID, that was a very normal thing for partners to maybe envy. What the other gets to do. The grass is always greener, but I think it was very real during COVID. Where he got to leave the house. And I'm like, 'Is that not enough? You at least get to leave the house. You get to see adults. What more do you need?'

In many cases, spouses were both working from home. Sharing the home space also caused tension and conflict. As Lillian's simply stated, "It was not easy. Thank God, I love my wife. But I was like, can I just go find a space where no one's there? I'm gonna go for a walk, a long walk." Spencer's mother explained how her mother-in-law, her husband, and herself, all worked from home and helped the children with school. "It took everything for us to get through the day and not kill each other basically, because it was like, we were on each other's toes." She was relieved when her husband started working outside of the home again,

But at the time, I was so happy to see him go back to work. I was like, 'okay, our marriage is gonna survive. You've had enough of me; I've had enough of you. I love you. But you cannot be here right now.'

Mothers also reported that conflict with their children increased and attributed this to role conflict. Children struggled with the requirements of at-home schooling. As parents took on the role of teacher, some children resisted this change in relationship. Mothers admitted that their own mental health also played a role in conflict. As they experienced loneliness, fear, and stress, their interactions with their children were strained and this led to confrontations and conflicts.

Some of the added conflict derived from the added stress of virtual school. Vanessa's mother shared,

My fuse with the kids was definitely shorter. But their fuse was short. I feel like everybody was just sort of on edge, because the computers wouldn't work, and we have to turn this in. And everybody trying to navigate this new thing. And so, we were all just a little bit cranky, I guess.

Natalie's mother felt strain between herself and her daughter, "My relationship with my kid was super strained through all of this. She was frustrated. I was frustrated. It was definitely a practice with patience with each other. I'm not a teacher." She explained how this role

conflict impacted the two of them. “I think that the biggest struggle was absolutely teaching my kid school at home. I was so out of my element. The impact that it had on our relationship was really challenging.”

Elisa’s mother experienced an increase in conflict with her children due to role conflict and increased expectations,

And then conflict with me and the kids. I think that definitely was worse, because of the dynamic and the expectations and the schooling being done at home, and all of that, that definitely would make everyone's temper much shorter. I would lose my temper a lot easier. I wasn't able to control my emotions and stuff as well. And same for them, you know? It was just me and the kids 24/7. So yeah, there was more conflict.

Obi and Eli’s mother was always “yelling and screaming” at her children during the pandemic and virtual schooling. Spencer’s mother shared a similar confession. She described how at-home schooling took a toll on her. “It was a time warp thing almost. We all felt like every day was the same, like it was never ending for the longest time.” She was relieved when schooling transitioned back to in-person. She and her husband eventually decided to hold their younger two sons back a grade because the added tension of teaching in the home was too great. She explained,

I told my husband, I said either I'm the bad guy and yelling and screaming at them, like finish your work, finish your work, you know, or they're gonna repeat anyway. We've made a decision. Like they're done. They're done. I'm not going to make it harder for them.

Conflicts between spouses and between mothers and children stemmed from the transition in parenting roles and the stress and strain it caused. Within the home, families wrestled with these changes and the conflicts that arose, while outside of the home, they experienced conflict due to conflicting viewpoints on health and safety during the pandemic.

Outside of the home, relationships also included added conflict. While parents were previously able to reach out to their own parents, siblings, or other relatives for assistance and support, these support systems were out of reach during the pandemic. Parents also reported conflicts with family members, primarily due to political disagreements and pandemic health and safety guidelines. Not all family members felt similarly when it came to pandemic precautions. This left some family members out of family gatherings, while other family members carried on with life as usual. This led to conflict for some families and continued to be a source of contention.

Andrew's aunt, who cared for her two nephews while her sister worked out of the home explained how her level of precautions did not always live up to her sister's expectations. She considered giving up helping her sister with childcare because of the blame she felt was placed on her. While she continued to care for her nephews, the relationship between her and her sister was now strained. "My sister really picks on me, for instance, she won't know where her kids got sick, but automatically if they're sick, says, 'I told you not to take them there.' And so, I just don't want to hear it."

Stan and Lina's mother shared how her family relationships have become conflictual due to differing opinions on politics and the pandemic.

With my immediate family, it has certainly changed things. We all align differently when it comes to all the big things like politics, and vaccines, and all of that. When this all went down, it seemed very black and white, there were some of us who saw how serious this was and took it seriously. And there were some who didn't. And there were times that we would butt heads, especially when it came to family gatherings, or whether or not to have them or whether or not to be around my vulnerable parents.

She went on to explain how one of her siblings shared her views and her other two siblings did not. She was angry with her siblings for putting their parents at risk during the

pandemic. She felt accused of not wanting to be part of the family. “There were times where I was just flat out asked, ‘why are you not okay with hanging out with us?’ And it was very much an accusation, accusatory. What's wrong with you, type of thing.” She answered this accusation this way, “It's not a personal thing. It's just that we are in the midst of a pandemic. And these are my beliefs, and this is what we're gonna do. This is what's best for our family.”

Jimmy and Nat’s mother felt a similar source of tension within her extended family.

I'm really concerned about my grandparents. And then I have this one aunt who doesn't care and goes to visit them all the time. And it just makes me so mad when everybody else has been so careful. And we're all vaccinated, and we all mask and then to have this one person that doesn't care. I just don't understand it.

Alex’s mother had an autoimmune disorder. She described tensions in her relationships with her husband’s family. She shared a situation where they tried to have a family meal together and things went awry. “I had to tell my father-in-law, if you say China virus, in front of my children in front of us, you'll have to leave my house immediately.” After this confrontation, she went into her house and was shaking. “After I said that, they were all outside, because of course, I wasn't having anybody in my house, and they all laughed at me that I put us in tables with our own little food so we're not sharing.” Since this encounter, the family continued to be divided. “I wonder now what was said about me because they all got together for Christmas every year...They all celebrated Thanksgiving together they all celebrated every Christmas together even that first year. They did a video chat with us.”

Parents also shared conflicts that occurred with their friends. Again, this was often due to pandemic precautions and political debates. Alex’s mother shared how her strict views on mask wearing and vaccines created tension between herself and her friends. She described an

uncomfortable encounter when a parent of one her daughter's friends texted her to let her know they had tested positive for COVID. She explained,

Since I seem like a mom that always cares, she thought she should let me know...People will say, oh, well, you're always in masks. And I'm thinking, well, it's a pandemic, we should all be. But I'm always just surprised. I mean, they think of me as that mom, you know, that's always in the mask.

She went on to share how her beliefs caused a twelve-year friendship to fall apart. "But then through this, we have almost no contact. And before, she was one of my best homies, I mean, we served on a nonprofit board together. We worked beside each other forever."

Shannon and Alfie's mother had conservative views regarding politics and pandemic safety guidelines. She had a similar experience with losing friendships. "I've worked for my employer for four and a half years. We're friends, she's like my mentor...I don't see her anymore. I'll go over a year now without seeing her." Her friends on social media have also abandoned her, "Some of my friends I have, I've lost on Facebook just because I can't, I can't stand their masks. They think people who don't wear masks are awful. I mean, our own Colorado governor called us a selfish bastard."

While mothers experienced added role responsibilities and gendered expectations living during a pandemic, working from home, and educating their children, they also faced conflict with spouses, children, family, and friends due to role conflict, differing experiences, and opposing beliefs. These challenges contributed to increased mental health issues for parents and decreased family wellbeing overall.

## **Conclusion**

In this chapter, I highlighted the unique challenges faced by parents during the pandemic and school closures. As parents faced the unique characteristics of an inverted

disaster, they experienced conflict and strain in their roles, spaces, and relationships. Some of these findings were expected. Research has shown that gender expectations influence family dynamics, roles, and conflict during disasters (Enarson 1999; Enarson et al. 2007; Fothergill 1999, 2012). However, my findings show that these conflicts, along with the strain on space, were magnified by the unique characteristics of this inverted disaster. The pandemic was unlike a typical disaster in which a family may experience hardship for a specified amount of time and in a specific location. In the case of the pandemic, the threat was boundless in time and space. This left families with a sense of uncertainty and ubiquity of their roles, how long they would last, or how to fulfill their commitments.

Parents, and particularly mothers, who assumed the traditional gender role of caregiving for their children during this inverted disaster, adopted the roles of teacher, paraprofessional, therapist, and counselor. During a typical disaster, mothers tend to take on caregiving roles (Fothergill 2012), however, they do so with the support of educators and other professionals, and with the help of their personal support systems. In the case of the inverted disaster, these systems were absent. Mothers not only had to care for their children but were expected to manage their education from home for an undetermined length of time. Mothers struggled to maintain balance in their lives and in their homes, as they experienced role conflict and strain, along with the added burden of these gender role expectations. Those with children receiving special education were disproportionately at risk of experiencing conflict and strain in their spaces, roles, and relationships.

The pandemic also placed a unique burden on the space of the home. Due to the invisible threat of the pandemic, social spaces were inaccessible, including school buildings.

Families were expected to isolate in their homes, becoming physically emplaced, yet in some ways, open to outside observation. The home, traditionally a place of comfort and caring, became strained, and was mutated into a shared space for living, working, learning, and playing. This alteration of space largely affected women, who were traditionally expected to care for the home as a safe space for their loved ones. To have this space warped, not by choice but by necessity, created strain on mothers, and further muddled the role boundaries between mother and teacher.

These added strains and conflicts also contributed to interpersonal conflict between mothers and their children and spouses. Conflict in the home increased as space and roles were confused. Mothers shared their struggles with their spouses, often coming from a place of distance between their new parenting roles and the lack of shared experiences. Relationships with their children were also strained, as mothers played with their new parenting roles within the home/school/work landscape. In addition to conflict within the family home, parents also reported an increase in conflict with extended family members and friends. The social isolation, stressors of the pandemic, and political debates over pandemic safety and health guidelines, in addition to general social anxiety contributed to these conflicts.

Looking beyond the gender inequalities at play between mothers and fathers, my findings also suggest that parents of higher socioeconomic status, those who worked from home, and those who had a partner at home, had greater advantages than their peers. These parents had flexibility in their work-from-home schedules to better support their children with learning, had the resources to advocate for their children, and were able to support each other. These parents also were more likely to live in larger homes and had the resources to invest in

improving their home spaces to meet the needs of the pandemic. Parents who were disadvantaged in terms of time and resources felt a greater sense of conflict in these aspects of their pandemic lives.

Conflict and strain within the home contributed to mental health impacts for mothers, as well as fathers and other caregivers. During interviews, parents shared their battles with mental health during the pandemic and school closures. They experienced stress and feelings of being overwhelmed. They reported feeling isolated and lonely, depressed, hopeless, anxious, fearful, and ashamed. In the next chapter, I will address these mental health outcomes, drawing on qualitative interview data with parents of children with disabilities. I also examine correlations between mental health strain, factors of social vulnerability, and educational experiences during the pandemic using social survey data.

## CHAPTER 7

### MENTAL HEALTH IMPACTS OF SCHOOL CLOSURES ON PARENTS

Throughout this study, I examine the challenges faced by children with disabilities and their families as they experienced changes in schooling during the COVID-19 pandemic and to understand the ways parents mitigated these challenges. In the previous chapter, I showed how conflict took on a persistent presence in the lives of parents, and particularly of mothers. As mothers took on the primary duties of caregiving, educating, and counseling, they experienced conflict within their roles, their space, and their relationships. These conflicts added to the mental and emotional tolls of being a parent during the pandemic to children with disabilities.

In this chapter, I examine the mental health impacts faced by parents during the pandemic. I answer the following research questions:

2. How did shifts in education differentially impact students with disabilities and their parents?
  - c. How did these challenges impact the mental health of parents?
  - d. What other factors were related to mental health outcomes?

First, I describe the results of social survey data that focus on perceived stress, wellbeing, and worry experienced by parents. I document the disproportionate toll taken on families who have children with a disability or disabilities, as well as on those parents managing work from home, low income, and lack of access to resources, single parent households, and parents of color. Drawing on qualitative interview data, I depict the ways that the mental health of parents was impacted during the pandemic.

In analyzing survey and interview data, I found 1) parents experienced stress, social isolation, anxiety, depression, and fear; 2) these feelings were increased for parents of children with disabilities; and 3) single parent households, parents who worked, families with low socioeconomic status and lack of resources, and parents of color experienced additional hardships during the pandemic.

Disclaimer: It should be noted that I am not a mental health professional and am not making claims regarding mental health diagnoses for the participants in this study. My findings are based on participants' perceptions of their mental health state during the pandemic as they reported on surveys and in interviews. For example, when I note that a parent was depressed or had anxiety during school closures, this is based on their own reporting of how they felt during this time. At times, parents also referred to a diagnosis or treatment they were receiving from a mental health professional, however, I did not verify the validity of these claims.

### **Mental Health Strain: Quantitative Survey Results**

To gather information about the impacts of at-home education on parent mental health, all parent respondents (n=125) completed a survey which included scale items for the Perceived Stress Scale (PSS) (Cohen et al. 1983), the Warwick-Edinburgh Mental Well-being Scale (WEMWBS) (Tennant et al. 2007), and a Worry scale. Each scale item was ranked from 1 to 5, with 1 meaning they never experienced this feeling and 5 meaning they experienced this feeling very often. During analysis, the average stress, wellbeing (inverted), and worry scores were combined to form a mental health strain score for each participant. In this section, I provide key information related to the strain experienced by parents during the pandemic and the compounding effect of having children with disabilities.

The average stress, wellbeing, worry, and strain scores varied between parents of children with disabilities and those without. Stress, wellbeing, and worry were ranked on a scale from 1 to 5. Strain scores ranged from 3 to 15. For all parents, mental health strain scores fell within a range between 5.46 and 13.37, with higher scores indicating a higher level of mental health strain. On average, this score was higher for parents of children with disabilities who had an average score of 10.13, with scores ranging from 7.14 - 13.3. In contrast, parents of nondisabled children had an average score of 8.93, with scores ranging from 5.46 and 12.19.

Table 7.1 indicates the average perceived stress, wellbeing, worry, and overall mental health strain for parents, comparing those with a disabled child to those without a disabled child. As shown in this table, parents with a disabled child experienced a higher level of stress, worry, and overall strain, and experienced lower levels of wellbeing.

Table 7.1. Average Mental Health Scores of Parents by Disability Status

	<b>Child with Disability</b> n=62	<b>No Children with Disability</b> n=62	<b>P-Values</b>
Stress	3.25	2.92	*
Wellbeing	2.97	3.25	
Worry	3.86	3.26	**
Strain	10.13	8.93	**

\*p < .05; \*\*p < .01; \*\*\*p < .001

To assess the impact of independent variables on mental health strain, the 5-point ordinal data was dichotomized into high and low scores for each mental health variable. When examining those participants who fell within the high scores (4-5) on average for stress and worry, low scores (1-2) for wellbeing, and a high level of strain (greater than 11.5), a stronger relationship between parents with a disabled child and parents without a disabled child was exposed. Table 7.2 provides insights on the impact of having a child with a disability on stress, worry, and strain. Across this sub-sample, parents who have at least one child with a disability

scored higher than their counterparts. Compared to parents who did not have a child with a disability, parents of a child with a disability were 12 times more likely to rate their stress high, 2.5 times more likely to rate their wellbeing low, and 1.9 times more likely to rate their level of worry high. See Table 7.2.

Table 7.2. Percentage of Parents with Poor Mental Health by Disability

	<b>Child with Disability</b> n=56	<b>No Children with Disability</b> n=54	<b>P-Values</b>
Stress	12.50	0.00	*
Wellbeing	29.09	11.54	*
Worry	46.30	24.00	*
Strain	15.52	1.92	*

\*p < .05; \*\*p < .01; \*\*\*p < .001

The Perceived Stress Scale (PSS) was used in the social survey to measure the amount of stress parents experienced during the pandemic and school closures. Each item is rated on a 1 to 5 scale. Items included feeling: upset because of something that happened unexpectedly (3.15), unable to control the important things in my life (3.32), nervous or stressed (3.67), confident in my ability to handle my personal problems (2.54) (inverted), things were going my way (3.22) (inverted), could not cope with all the things I had to do (2.96), unable to control irritations in my life (2.83), on top of things (3.36) (inverted), angry because of things that happened that were outside of my control (3.00), and difficulties piling so high I could not overcome them (2.73).

Average perceived stress for parents of children with disabilities was 3.25 compared to 2.92 for their peers. As described above, 12.50% of parents of children with disabilities scored high on average perceived stress, compared with 0.00% of their peers. Taking a closer look at the individual indicators for stress, Table 7.3 shows the percentage of parents who reported experiencing a high level of stress (4 or 5 on a 5-point scale) for each indicator.

This analysis indicates that parents of children with a disability perceived a greater amount of stress than their peers in their daily lives during school closures. As previously reported, due to the structural barriers to education faced by their children, parents were required to provide more support than for children without disabilities. In many cases, parents sat side-by-side with their child during at-home and virtual learning, assisting their child with learning, modifying assignments as needed, supervising their therapeutic sessions, as well as managing increases in negative behavior. For parents who were also working from home, parenting alone, or who lacked skills and resources, these pressures added further stress.

Table 7.3. Percentage of Parents with High Stress by Disability

<b>How often did you feel...</b>	<b>Child with Disability</b> n=55	<b>No Children with Disability</b> n=54	<b>P-Values</b>
upset about something that happened unexpectedly	50.91	22.22	**
unable to control the important things in my life	57.14	44.44	
nervous or stressed	64.29	59.26	
confident about my ability to handle personal problems	12.50	18.87	
that things were going my way	48.21	31.48	
could not cope with all the things that I had to do	30.36	27.78	
unable to control irritations in my life	13.76	9.17	
on top of things	50.00	40.74	
angry because of things happening outside my control	39.29	28.30	
difficulties piling up so high I could not overcome them	32.73	5.56	***

\*p < .05; \*\*p < .01; \*\*\*p < .001

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS) was used in the social survey to measure the level of wellbeing experienced by parents during the pandemic and school closures. Means for each item are in parentheses. Each item is rated on a 1 to 5 scale. Items included feeling: optimistic about the future (3.12), useful (3.56), relaxed (2.41), interested in other people (3.06), energy to spare (2.37), dealing with problems well (3.10), thinking clearly (3.14), good about myself (3.12), close to other people (2.98), confident (3.14),

able to make up my own mind about things (3.37), loved (4.03), interested in new things (3.17), and cheerful (3.17).

Average wellbeing for parents of children with disabilities was 2.97 compared to 3.25 for their peers. Higher scores indicate a greater level of wellbeing. (These scores were inverted before calculating the mental strain score). Scores averaging in the low range were reported by 29.09% of parents of a child with a disability. Comparatively, 11.54% of those without a disabled child indicated low scores on average. Table 7.4 shows the percentage of parents who reported low wellbeing for each indicator (1 or 2 on a 5-point scale).

Table 7.4. Percentage of Parents with Low Wellbeing by Disability

How often did you NOT feel...	Child with Disability n=55	No Children with Disability n=54	P-Values
optimistic about the future	29.09	21.15	
useful	18.87	11.54	
relaxed	65.45	50.98	
interested in other people	44.44	25.00	
had energy to spare	70.37	48.08	*
dealing with problems well	29.09	17.31	
thinking clearly	27.27	21.15	
good about myself	30.91	26.92	
close to other people	43.64	34.62	
confident	30.91	25.00	
able to make up my own mind	25.45	17.31	
loved	9.09	5.77	
interested in new things	41.82	30.77	
cheerful	25.45	11.54	

\*p < .05; \*\*p < .01; \*\*\*p < .001

Across all 14 indicators, parents who did not have children with disabilities reported a greater sense of wellbeing than those parents who have children with disabilities. See Table 7.4. For parents with the added responsibilities of caring for and educating a child with a disability, key indicators of wellbeing, such as having energy, feeling relaxed, interest in others, and feeling

cheerful were lacking. The imbalance between roles and responsibilities may have contributed to this lower sense of wellbeing.

For the final scale on the social survey, a scale of worry indicators was developed for the pandemic parenting context. On a scale of 1 to 5, with 5 being high, parents rated how often they were worried during the pandemic and school closures about the following aspects of their lives. Means are in parentheses: children’s education (3.90), health issues (3.56), finances (3.31), safety (3.18), children’s mental health (3.86), and their own mental health (3.53).

The average worry indicated by parents of children with disabilities was 3.86 compared with an average of 3.26 for their peers. Of parents with a disabled child, 46.30% indicated high levels of worry on average, compared with 24.00% of parents without a disabled child. Table 7.5 shows the percentage of parents who scored in the high range (4 or 5 on a 5-point scale) for each indicator of worry.

Table 7.5. Percentage of Parents with High Worry by Disability

<b>How often were you worried about...</b>	<b>Child with Disability</b> n=55	<b>No Children with Disability</b> n=54	<b>P-Values</b>
children's education	75.47	60.00	**
health issues	61.11	54.00	
finances	59.26	34.00	*
safety	50.00	42.00	
children's mental health	75.93	60.00	*
my own mental health	62.96	40.00	**

\*p < .05; \*\*p < .01; \*\*\*p < .001

Parents who have children with disabilities indicated they worried more often about all six of the indicators. These parents felt a greater sense of worry in all areas of their lives due to the compound stressors of raising a child with a disability. These worries may have been exacerbated by the added challenges experienced during the pandemic. For parents with

additional disadvantages, such as those experiencing job loss or homelessness, school closures would have an even greater impact on their wellbeing.

Social survey findings indicated that parents of children with disabilities were at greater risk of stress, lower wellbeing, and worry than their peers. This finding uncovers the reality that being a parent of a child with a disability during the pandemic increased their risk of mental health strain, which further impacts the education and wellbeing of their children. In the following section, I will further examine these themes by drawing on the interview data.

### **Mental Health and Wellbeing: Qualitative Interview Themes**

#### ***Feelings of Anxiety, Stress, and Loneliness***

During in-depth interviews, parents reported feeling stressed, overwhelmed, and mentally and emotionally fatigued during school closures. For parents with disabilities, survey data illustrated that these feelings were amplified; with an average stress score of 3.45 compared to a score of 2.85 for parents of children without disabilities. Much of this stress derived from the responsibilities of at-home schooling and working from home. For example, Obi and Eli's mother reported a score of 4 when asked how often she felt stressed (strain score: 11.33). As a single mother, she felt overwhelmed trying to manage her children's school schedules along with her own work schedule,

I just print out their schedule, put it on the wall so that they will know and then set alarms to know it's time for this class, it's time for this class. It was crazy. It was crazy. Thinking back now, I don't even know how I did it, but we did it. It was very, very, very challenging. It's just overwhelming.

Other parents echoed these sentiments, reporting feelings of increased stress during the pandemic that were intensified by school closures, being a parent of children with disabilities, and balancing their children's education with their own work obligations.

Charlie's mother, who continued to work outside of the home during the pandemic, was overwhelmed when she learned her son would be on a hybrid schedule,

The day that they sent out the email saying that school was going online. The following week, I sat in my car and cried for 45 minutes, because I was like, how am I going to do this? How am I going to stay home with him and do half days? I can't work from home. That's not even possible with my job.

As parents had to balance their own work responsibilities during the pandemic, changing in schooling and scheduling increased feelings of being overwhelmed and stressed. Patty's mother, who reported an average stress level of 3.6 and strain score: 10.72, also documented how the uncertainty of the pandemic increased feelings of exhaustion and stress.

I think it's just been trying to really roll with the unknown. It seems like it's just a constant unknown, hovering over all of us all the time. We don't know what's going to happen next. We don't know if the kids are going to be quarantined, or not be able to go to school, or they're going to shut the schools down. I think that's hard on everybody...It's just this general uncertainty. That gets exhausting.

Stan and Lina's mother, who scored 10.37 on mental health strain, also described how the uncertainty of the pandemic led to emotional changes for not only her children, but herself. She reflected:

I struggle with change. So, when this all happened, suddenly, there was a buzzing in my head of this is too much. I can't process this. I have to process this. And then somehow, I have to get my kids to process this. And it was too much. And when it's too much for me, I shut down, kind of emotionally. I kind of just go into my own little shell and shrivel up and just don't want to talk to anybody or anything. And I get snippy, and all the things that people do when things don't go according to plan sometimes. At first for me, that was really hard. Because I was like, it's too much, there's too much happening, I suddenly can't work right now. And my kids can't go to school. And somehow, I have to be this source of strength for them. When I don't even know how I'm going to deal with this.

These examples illustrate the feelings of stress that were captured in the survey results.

Parents of children with disabilities felt uniquely stressed and overwhelmed by the pressures on

their parental roles, in addition to changing work expectations and requirements. They also recognized how stress affected their moods and interactions with their children and partners.

In addition to feelings of stress and being overwhelmed, parents reported that they were socially isolated and lonely during the pandemic. Parents with chronic illnesses, such as autoimmune disorders, reported increased feelings of isolation. Alex's mother, who had an autoimmune disorder and took COVID-19 precautions seriously, indicated a score of 1 out of 5 when asked to rate how often she felt close to other people (strain score: 12.54). She compared her experience to living on a spaceship, "It really felt like the four of us could have been on Mars. And we were in some spaceship, where we had video chat, but...We didn't see people, the isolation, I felt like we were on our own planet." Social isolation was difficult both on children, as well as their parents.

Many parents documented how social isolation persisted, even after schools re-opened and pandemic restrictions were lifted, due a greater sense of social anxiety about making social connections outside of their own homes. Alan's mother (strain score: 10.57) shared,

We used to be people who would always be out and about. And I think now after COVID, we were so used to being home now. We don't like to go anywhere...The challenge was not seeing friends and family when we normally would on the weekend. And I think that's the main thing COVID has done is it has separated everybody because now everybody just wants to be with their people they stayed with during that time. That weekend used to be for family and now we don't even do that.

Other parents echoed how the pandemic had changed patterns of social interaction for themselves and their children, describing difficulties in reconnecting with friends, having become more introverted, and the impact of living in "different worlds".

For parents with disabled children, the isolation felt more intense, as they were less likely to be included in a pandemic learning pod to ease their stress and loneliness. This was

also true of those who had medically fragile children or who themselves had a health issue that required extra precaution. Without in-person connections, these parents felt especially isolated and as though they were living a separate existence from their peers.

In addition to reporting increased social isolation and stress, parents shared that their anxiety increased during the pandemic. During interviews and surveys, parents indicated their level of worry about their children's education, health issues, finances, safety, children's mental health, and their own mental health. Similar to the survey findings which documented the impact of having children with disabilities on stress, parents of children with disabilities who participated in the interviews scored an average of 3.96 on the worry scale, compared with their peers who scored an average of 3.15.

The uncertainty and unprecedented nature of the pandemic was seen as a driving force in elevating anxiety. Patty's mother rated her average worry at a 4.33 on a 5-point scale (strain score: 10.72) and described how the uncertainty of the pandemic shaped mental health impacts.

Everything is disrupted. And I think that it's an element of fear. That it's just kind of out there. And it's been out there for so long...But it's just always there. And it's a bummer. That's how we all have to live right now...It's just this general uncertainty. That gets exhausting.

Likewise, Sam and Julie's mother linked the uncertainty of schooling to being a source of her anxiety; describing "the back and forth, and not knowing whether it's going to be remote or face-to-face and back and forth, and also having to worry about the possibility of becoming ill is a fear."

Other parents echoed this, documenting that unknown duration of school closures and school changes led to increased anxiety for both parents and their children. Lillian's mother

experienced anxiety, along with her wife and daughter. This anxiety appeared to take over the entire household,

Just the anxiety, feeling trapped in the overwhelming sense of we're doing the same thing every day. It's the frustration, man, this shit sucks. I'm so over being in this house. I'm so over doing the same thing over and over again. You know, so there was a lot of those type of frustration tears where you're like, I just don't know what to do.

Later, she described how difficult it was to manage mental health for each member of her family during that time and reported that they are now seeing therapists to help them cope with their anxiety.

For other parents, the impact of at-home schooling on work availability heightened anxiety about the stability of their employment. Brian and Megan's mother, who had a strain score of 8.93, described how "it [school changes] just manifested in a lot of stress and anxiety. And some days very unneeded because it all turned out fine. And no one ever lost their job...I think both an anxiety of lack of control." Whether anxiety stemmed from the persistent uncertainty, the stress of at-home schooling, the fear of the virus, or worries over job security, it was shared experience for parents. This highlights the connection between parental roles, income and job security, and lack of support from a partner, among other vulnerabilities. As parents' anxieties increased over these external factors, it only seemed to increase the anxiety and stress they experienced within their own homes. These experiences can also significantly impact parent-child interactions, and for children with disabilities, who are already socially vulnerable, it can hinder development and wellbeing.

In addition to the new pressures and anxiety parents were facing and the lack of support they felt, parents were also anxious about the coronavirus infection for themselves, children, and elderly parents. Parents who had their own pre-existing health conditions or whose

children or other family members had physical and medical disabilities were concerned about health and safety. Spencer's mother, for example, rated her level of worry over health a 5 on a 5-point scale and scored an average of 4.67 overall on the worry scale (strain score: 10.18). As her husband has a heart condition, her sons have health conditions, and her older mother-in-law lives with her, she described being "very scared all of the time". She recalled:

It was constant. Just because it was, what are we going to do? Are we going to make it out alive? Are we going to get this thing? You know, we were hearing all kinds of stories that kids were getting all these brain issues and stuff. It was just very unnerving. I don't think we relaxed really till they got their vaccinations recently.

Other parents expressed a fear of the coronavirus, specifically for their children due to their physical disabilities. Alan's mother also rated her worry over health a 5 (strain score: 10.57). She shared, "None of us, knock on wood, have gotten COVID. And I think we were so afraid for our oldest because of the obesity and my youngest, he has asthma. We didn't want to risk anything...We don't want to risk getting it because of them." Kelli's mother scored 12.74 on her mental health strain. She gave birth to an infant during the pandemic. Her baby was born prematurely and required multiple surgeries in his first few months of life. She was anxious about keeping him safe and she said that took priority over her own mental health, "I always considered him so much more, I just need to protect him...I wanted to make sure that nothing happened, more to him, especially with COVID. So, it just felt better to stay in and keep the kids safe."

Some parents were also concerned because of their own physical health risks. Blake and Joy's mother, who rated her worry about health a 5 (strain score: 9.07) shared, "I was the first person in my company to ask permission to go home because I saw things happening. And it scared the hell out of me." She realized that her workplace was likely going to transition to

remote work, but she told her boss, “But I'm scared now. I'm at risk now. I hear people coughing down the hall now. And I am a solo parent with two children that I am solely responsible for. And I don't have a solid immune system.”

While parents were suffering from feeling stressed, overwhelmed, isolated, and anxious, they also began to experience emotional fatigue and trauma. The ongoing nature of the inverted disaster added to parents' fears and fatigue. The pandemic was undefined in terms of how long it would go on and when it would end. As it continued to come in waves, parents had to adapt to the ever-present uncertainty. Fears of the invisible virus drained them as the pandemic continued and the reopening of schools was uncertain.

### ***Feelings of Uselessness, Hopelessness, and Depression***

Some parents who were unemployed during the pandemic struggled with feeling unessential and useless. Andrew's aunt rated feelings of usefulness as a 3 and her overall wellbeing at 2.14 (strain score: 12.56). She shared how the term 'unessential' made her feel as a person. Although her time was occupied with schooling her own two school aged children, two nephews, and caring for her infant and toddler, she felt useless because her role in society was limited to 'mother.'

They took everything, okay? They took everything I was and took it away from me. Anything I was besides a mom, basically. I was told that I am not essential and too bad, go home. And we're not quite sure what we're gonna do with you but for right now, we don't need you.

Likewise, Kelli's mother described how her husband also struggled with these feelings of uselessness. He worked for many years to build up his own live events business that had to shut down during the pandemic. “It definitely got really hard for my husband because the side gig

that he had worked for years and years to finally achieve [shutdown]...It was a really rough summer in terms of feeling confused, of just direction in life.”

In contrast, other parents found a renewed purpose in their children’s schooling. The transition back to in-person learning was thus difficult. Liam and Olive’s mother, who had strain score: 9.36, described the loss of purpose she felt after her daughter returned to in-person schooling in fall 2020. She felt like she no longer had a purpose. “I was just kind of home, and I was feeling I guess not great about anything because what was I doing?”. Although she ultimately began volunteering at a local non-profit, her account demonstrates that feelings of uselessness were not uniform across parents.

For parents who were suddenly thrust into life at home without their work to identify them and give them a sense of purpose, like Andrew’s aunt and Kelli’s dad, their feelings of being useless were damaging to their overall mental health. For those who were stay-at-home mothers prior to the pandemic, a newfound sense of purpose was discovered during remote education, and the transition to in-person schooling was more difficult. It is interesting to reflect on these differences. For some parents, their engagement with their child’s education was productive, however, other parents found it less meaningful and craved purpose outside of the home.

Parents who have children with disabilities also struggled with feelings of failure. They felt they were not living up to the expectations that the ‘mother role’ during the pandemic required. They could not keep up with the demands of acting as parent, educator, therapist, mental health professional, and social timekeeper. In interviews, they shared feelings of complete failure and wondered how their children would be impacted by their shortcomings.

Parents reported that the high expectations of teachers were difficult, leading to increased feelings of being “inadequate”, a “failure”, and “bad parents”. Joey’s mother referred to her ‘mom guilt’ and her fears that she was “screwing them up for their futures”.

And then you have all that mom guilt, that's the thing, where it's like, oh, I should be sitting and doing this and really working at it, and they're not learning and it's going to be my fault, they're going to be behind.

Elisa’s mother rated her ability to stay on top of things a 2 on a 5-point scale (strain score: 11.00). She felt she had failed her child with a disability because she was unable to focus on her child’s needs. “It's so sad, it makes you feel like an even worse person thinking back to that time. It's just so hard to admit it, you know? I think that's probably the hardest thing.”

Spencer’s mother also admitted that she was struggling because she did not know how to help her son, “I feel like a failure as a mom, because I don't know what I can even do to help him.”

Todd’s mother rated her ability to stay on top of things as a 2 (strain score: 9.54). She was currently in therapy to deal with her feelings of failure,

I think once you kind of get out of that survival mode, I mean, I'm in therapy now, because I'll be honest, it's really taken a toll on my mental health. So now I'm seeking out services to help with just the stress of it. It's stressful, because you feel like, oh, my gosh, I failed my child. And now he can't read because I wasn't able to teach him, and then having special needs on top of that. It was really hard.

Other parents reported feelings of failure resulting from their child’s remote learning experience and worried that they had “failed” their child. Natalie’s mother, for example, felt like a failure because she chose to continue working at her job instead of taking time off to help her daughter with school. As a single mother, she did not feel she could leave her work and the opportunity to be promoted. She rated her ability to handle her personal problems a 2 on a 5-point scale. Referring to this decision, she replied, “I probably didn't choose the right one, I

definitely didn't choose the right one." She later shared her fears that this decision would have long term impacts on her children. "I failed in so many ways during COVID. You know, god, it's a bummer that it was so extremely visible, because there was no escape from the choices that we were making every day."

Parents with disabled children were especially vulnerable to feelings of failure during school closures. They experienced a greater sense of role conflict and stress on their role expectations. As they were challenged to provide education and services to their child, along with supporting other children, they had to set priorities that did not always benefit every child in the home. As parents of children with disabilities experienced feelings of guilt and failure, their sadness and hopelessness also increased.

Parents described their struggles with depression and feelings of hopelessness that invaded their lives during the pandemic. Blake and Joy's mother who was living out of a hotel during the first six months of the pandemic, shared her tears with a work resource group for parents,

And literally, every time that group met, for a really long time, someone if not all of us cried. Sometimes we made each other cry, but it was a great place for parents to talk about everything from school challenges to you know, I just really want to get out of the house, and it feels like there's nowhere to go. Wintertime, as you can imagine, was the hardest for a lot of us. When I'm in the hotel that was maybe the worst.

Spencer's mother also admitted to pulling over in her car to cry when she felt overwhelmed by the pandemic and the needs of her son. Likewise, Alex's mother described breaking down in tears at a park with her children,

There was one time that I was just sobbing, breaking down...I kept telling myself, you're not in your own home, you're outside, your kids are right here, like get up, walk around. And I'd get up and I'd walk two feet to sit on another rock. And I just must have spent an

hour straight, just crying my eyes out...Nothing I could do or try to think of could make me not sob my eyes out.

These accounts demonstrate that state of overwhelm and sadness that many parents lived in during pandemic school closures.

In addition to reporting increased feelings of sadness, parents also reported a decrease in optimism due to the impact of the pandemic on their mental health and wellbeing. Kelli's mother rated her optimism for the future at a 1 on a 5-point scale, indicating low wellbeing, and her average wellbeing score was 1.79 (strain score: 12.74). In addition to this low score, she reported feeling a loss of enjoyment in her life, clear signs of the overwhelming depression she was feeling,

I don't think I have found me yet. I don't think I have figured out a good schedule for me to get time by myself...And I feel like I haven't even figured out what I enjoy, and it sounds so sad. I feel like I really started COVID, and I loved baking, but I don't like it now. So yeah, the answer is a lot more sad than I expected. I haven't figured it out yet. I'm still trying.

Parents expressed feelings of hopelessness as they struggled through these pandemic challenges. Todd's mother also rated her level of optimism at a 1 and her overall wellbeing as 2.86 (strain score: 9.54). She shared how her son had meltdowns and had to be physically restrained after in-person schooling started up again. She felt hopeless, wondering when the next episode would occur.

When I'm working and he's at school, I have my keys and my phone at my desk and all day, I'm just sick to my stomach. What's going to happen? When are they going to call? It's a really icky place to be in right now.

Billy's father had a wellbeing average of 2.43 (strain score: 11.07). He also felt hopeless in the face of his son's behavioral issues during virtual schooling. His son would have unpredictable meltdowns in which his father had to physically separate him from the rest of the family. These

episodes were “physically and emotionally, just one of the most draining things I’ve ever done.”

When asked how he and his wife coped with these challenges, he stated,

Not well, honestly. It was just, it was really hard. It was really dark. It felt like we were never, things were never going to get better than we were at in this awful existence. And nothing, nothing we did worked, you know, nothing. Nothing. We tried. You tried to go out into the world and do the few things you could do. That novelty would make people really upset but if you stayed home all day and did nothing, then people would just amp up with energy and explode anyway, so it's like nothing worked. Nothing mattered.

For the parents of children with disabilities, negative impacts to their mental health were pronounced. They struggled both with at-home schooling and with behavioral disruption when their children returned to school, who too struggled with the changes. The uncertainty and never-ending feeling of the pandemic likely increased these feelings of hopelessness. There was no end in sight, and each change in schooling modalities was a new challenge to overcome with new behaviors to manage. Findings of this study show that parents of children with disabilities were more likely to experience these forms of mental health strain. In the next section, I will show how intersecting factors of social vulnerability compounded the impacts on parents.

### **Additional Factors of Social Vulnerability and Privilege**

No family went untouched by the COVID-19 pandemic. Every parent interviewed discussed struggles with their mental health and wellbeing. Yet, both survey and interview data documented that some families were better able to deal with the stressors of pandemic life. Families that did not have children with disabilities did not have the added challenges associated with working through special education with their child. They did not have to act as speech, occupational, or physical therapists, nor did they have to manage the additional challenges that raising a child with a disability entails. While they were concerned for their

child’s wellbeing, their concerns were less compared to those parents of a child with a disability, who were worried about how far the pandemic and virtual schooling would set their child back academically, developmentally, socially, and emotionally.

In addition to these families with children who have disabilities, other factors were also present in increased social vulnerability. Single parent households, families of color, low-income families, and parents working from home or outside the home, shared a sense of greater strain on their family wellbeing in various ways. Not only were these variables important to evaluate on their own, but interactions also existed between parents with a disabled child and these additional variables. These factors were also present in the survey data to varying degrees.

In the following sections, I provide further information on the intersection between parent status, income level, work status, and race and average stress, wellbeing, worry, and strain. See Table 7.6 for average mental health scores for each demographic group and Table 7.7 for high average scores in each category.

Table 7.6. Average Mental Health Scores by Parent Demographics

	<b>Single parent</b> n=22	<b>Dual parent</b> n=88	<b>Low income</b> n=25	<b>High income</b> n=80	<b>Work at home</b> n=53	<b>Work away</b> n=32	<b>Non-white</b> n=23	<b>White</b> n=86
Stress	3.23	3.05	3.40**	3.02	3.10	3.06	3.18	3.07
Wellbeing	3.09	3.10	2.84	3.17	3.06	3.36	3.21	3.07
Worry	3.45	3.61	4.05**	3.48	3.60	3.28	3.75	3.53
Strain	9.55	9.55	10.59**	9.30	9.63	8.98	9.71	9.50

\*p < .05; \*\*p < .01; \*\*\*p < .001

Table 7.7. Percentages of Parents with Poor Mental Health by Parent Demographics

	<b>Single parent</b> n=19	<b>Dual parent</b> n=84	<b>Low income</b> n=21	<b>High income</b> n=77	<b>Work at home</b> n=32	<b>Work away</b> n=51	<b>Non-white</b> n=22	<b>White</b> n=81
Stress	4.55	7.41	9.52	6.49	6.12	7.14	13.64	4.94
Wellbeing	31.82	18.52	28.57	18.18	24.49	7.14	27.27	19.75
Worry	36.36	37.04	57.14	32.47	30.61	28.57	40.90	35.80
Strain	4.55	11.11	25.00*	5.00	4.08	10.71	8.69	9.30

\*p < .05; \*\*p < .01; \*\*\*p < .001

### ***Single Parent Households***

During interviews, single parents reported greater struggles than their counterparts in dual-parent households. Single parents were more socially vulnerable to the pandemic as they were forced to maintain the household, employment, and education for their children and families on their own, without their traditional support systems in place. Single parents were also more likely to be lower income and required to be physically at work, or lose their employment, adding additional strain on family life. As discussed previously, some married parents also functioned as single parent households, as they experienced the absence of their partner during the pandemic and had more difficulty dealing with schooling their children on their own while their spouses were away.

Results from the social survey confirmed that wellbeing was lower for parents in single parent households, however average stress and worry did not show a similar relationship. It is unclear why this was the case. It might be that parents with partners in the home shared their feelings and took on the stress and worry of their partners. Refer to Tables 7.6 and 7.7 for a summary of these results. For a breakdown of each item on the mental health scales, see Appendix A.

For single parents who had children with disabilities, these impacts were even more pronounced. Parents of children with disabilities in single parent households had higher average stress and worry scores and lower average wellbeing scores. High stress was scored for 7.69% of single parents of a child with a disability compared to 0.00% of single parents without a child with a disability. 46.15% with a disabled child held extremely low wellbeing scores and high worry scores compared to 12.50% of their peers. The intersections of social vulnerability

are especially apparent, where being a single parent did not decrease wellbeing for parents of children without disabilities (12.5% and 12.2%) but having a child with a disability doubled the percent of parents experiencing extremely low wellbeing (25%), and being a single parent nearly quadrupled the proportion (46.15%). See Table 7.8.

Table 7.8. Percentage of Parents with Poor Mental Health by Disability and Partner

	<b>Disability</b>		<b>No Disability</b>	
	<i>Single</i> n=16	<i>Dual</i> n=42	<i>Single</i> n=8	<i>Dual</i> n=43
Stress	7.69	15.00	0.00	0.00
Wellbeing	46.15	25.00	12.50	12.20
Worry	46.15	47.50	12.50	26.83
Strain	7.69	20.00	0.00	2.44

Although survey results did not find a relationship between single parent status and stress or worry, parents did express mental health strain due to single parenthood during interviews. Parents living in dual parent households also discussed their privileged status in this regard. Patty’s mother, for example, claimed it would have been ‘logistically impossible’ to manage if she were a single parent during this time. Mothers referred to ‘tag teaming’ and ‘pinch hitting’ when talking about the ways their partners helped them with their children and education during the pandemic. They acknowledged that their partners were part of their support system as they educated children, worked from home, and handled the pressures of pandemic life.

***Families of Color***

Parents of color also faced additional stressors during the COVID-19 pandemic compared to their peers. Survey results found differences between white parents and parents

of color in high average stress, low average wellbeing, and high average worry, although no difference was found for high mental health strain.

For average stress, 13.64% of parents of color scored in the high range, 2.8 times greater than their white peers at 4.94%. Wellbeing scores showed a similar pattern, as 27.27% of parents of color indicated low wellbeing, while 19.75% of white parents indicated the same. For average worry, scores were less disparate at 40.90% and 35.80% respectively. No relationship was present for overall strain, with high scores indicated for 8.69% of parents of color, compared to 9.30% of their peers. See Tables 7.6 and 7.7. For a breakdown of each item, see Appendix A.

Interactions between race and disability status were also noted for stress and strain. Average stress scores were high for 20.00% of parents of color with a disabled child, compared to 10.53% of their white peers and 0.00% of parents without a child with a disability of all races. Average strain scores were higher for a greater percentage of white parents compared to parents of color, 18.42% vs. 13.33% respectively. Race was not a noticeable factor in wellbeing or worry scores. See Table 7.9 below for summary of these data.

Table 7.9. Percentage of Parents with Poor Mental Health by Disability and Race.

	<b>Disability</b>		<b>No Disability</b>	
	<i>Nonwhite</i> n=16	<i>White</i> n=42	<i>Nonwhite</i> n=7	<i>White</i> n=44
Stress	20.00	10.53	0.00	0.00
Wellbeing	33.33	28.95	14.29	11.90
Worry	46.67	47.37	28.57	23.81
Strain	13.33	18.42	0.00	2.38

## **Work Status**

Work status also impacted parent's experiences and mental health during the pandemic. In interviews, parents discussed the challenges of both working from home and working outside of the home. Notably, parents in this study more likely to work from home. Billy's father, who was able to take time off work to help his children and his wife was able to work from home, illustrated the differences he observed between children who did not have parents at home and his own children. He observed that not all parents have those advantages,

We are privileged that neither of us lost income, neither of us lost a job. And I'm patient enough to sit with him and help him do this work. You look around this classroom. A class of 25 kids, and because I was there to see the whole thing. I got a real window into how this went. It was a joke. You'd have a couple of kids who were there and into it, probably people like us who are privileged. And there were difficult kids whose parents are right there in the next room keeping them on track, and then you'd see kids who would be knocking on the bed, playing with their toys or just wouldn't even be there.

Parents who were able to take time off from work, or worked from home, were able to play a more active role in their children's schooling, which Billy's father viewed as a privilege.

This being said, parents who were able to work from home were also under a significant amount of stress that affected their wellbeing. These parents managed their job responsibilities while also trying to run their homes and educate their children. Other parents, most often those of lower income, had to prioritize going to work outside of the home rather than staying home with children. For some of these children, they were left home alone to monitor their own education, leading to late nights catching up when their parents were home from work, or missing out on school altogether.

Results from the social survey show that parents who worked from home had lower wellbeing overall and higher mental health strain than parents who worked outside the home

during the pandemic. Average high stress and worry scores were similar for both groups. Very high strain scores showed an opposite relationship with 4.08% of parents who worked from home indicated high average strain compared to 10.71% of parents who worked outside the home. In this case, wellbeing scores diverged more than those for stress and worry, leading to greater divergence in strain scores. See Tables 7.6 and 7.7 above. See Appendix A for breakdown of each scale item.

It appears that working outside the home increased stress and worry, but protected wellbeing, regardless of whether parents had children with a disability. Examining the interaction between parents' work status and child's disability status, a relationship is present between parents who worked from home and parents who went to work and also had a disabled child. This may be because leaving a disabled child at home increased parents' stress and worry about their child, while working from home allowed them to monitor their child's schooling and assist them as needed. See Table 7.10 for a summary of these data.

Table 7.10. Percentage of Parents with Poor Mental Health by Disability and Work

	<b>Disability</b>		<b>No Disability</b>	
	<i>Away</i> n=13	<i>Home</i> n=30	<i>Away</i> n=19	<i>Home</i> n=21
Stress	20.00	10.34	0.00	0.00
Wellbeing	20.00	34.48	0.00	10.00
Worry	40.00	34.48	22.22	25.00
Strain	20.00	6.90	5.56	0.00

Additionally, there is a relationship between parents who worked from home and the disability status of their child. Parents who worked from home and had a child with a disability reported the lowest levels of wellbeing. They were 1.7 times more to report low wellbeing than parents working away from home. Overall, Table 7.10 demonstrates that having a child with a

disability was a much bigger source of stress and worry than whether a parent did or did not work outside the home, in most categories, doubling or tripling the percentage of parents with very high average stress, worry, and strain scores as compared to parents without a disabled child.

These data show that as parents experienced school shutdowns during the inverted disaster, their mental health was impacted in disparate ways depending on their relationship with their jobs. As our organizations closed their doors due to the invisible threat of the coronavirus, many parents transitioned to work-from-home, increasing their social isolation, but also causing them to feel overwhelmed by their children's needs and that of their employers, lowering their overall sense of wellbeing. Having a child with a disability further exacerbated these effects. On the other hand, parents who were required to physically be present at work because of their non-essential status, placed them at greater risk of virus exposure, adding to their stress. They also worried more about their children and their physical and mental health than their peers.

### ***Income and Resource Inequality***

Parents with lower socio-economic status struggled with job and income insecurity, exposure to health risks, lack of internet access, and lower resource availability for their households and for educating their children at home. Those with higher socio-economic status and access to resources were more financially secure, able to maintain employment, and could provide additional learning opportunities and educational resources for their children. They were also better able to hire help with at-home schooling for their children or join pandemic learning pods and share educational responsibilities with other parents. These parents lessened

their burden and the burden of other parents, allowing them to reduce their stress, complete their job requirements, and improve their own mental health and wellbeing.

Survey results showed the strongest relationship between income levels and poor scores on mental health outcomes, more so than location of work, or race. Lower income parents indicated the highest proportion of extreme stress, wellbeing, and worry compared to their middle and high-income peers. Average worry scores were high for 57.14% of these parents, while only 32.47% of higher income parents experienced high worry scores. High strain scores were experienced by 25.00% of low-income parents in the survey. This was 5 times higher than for higher income parents. See Tables 7.6 and 7.7. For breakdown of each scale item, see Appendix A.

Looking at the intersection between income and disability, lower income parents struggled more than their counterparts overall. Those with a disabled child also did worse overall than other low-income parents who did not have a child with a disability and they did worse than higher income parents who had a child with a disability. The highest worry scores (64.29%) among any subgroup were found among lower income parents with a disabled child, compared with 42.86% of low-income parents without a disabled child and with 40.54% of higher income parents who have a child with a disability. Mental health strain showed a similar relationship. 35.71% of lower income parents with a disabled child scored high on strain, compared to 14.29% of lower income parents without a disabled child and 10.81% of higher income parents with a disabled child. See Table 7.11.

Table 7.11. Percentage of Parents with Poor Mental Health by Disability and Income

	<b>Disability</b>		<b>No Disability</b>	
	<i>Low Income</i> n=17	<i>High Income</i> n=56	<i>Low Income</i> n=7	<i>High Income</i> n=40
Stress	14.29	13.51	0.00	0.00
Wellbeing	35.71	29.73	14.29	7.69
Worry	64.29	40.54	42.86	23.08
Strain	35.71	10.81	14.29	0.00

Stress and wellbeing averages showed a relationship between disability status, but not in terms of income. 14.29% of low-income parents with a disabled child scored high on average stress, compared to 13.51% of their high-income peers. For those parents without a disabled child, 0.00% scored high on stress in all income categories. For average wellbeing, 35.71% of low-income parents of a disabled child scored low, compared to 29.73% of their higher income peers. For parents without a disabled child, percentages were 14.29% for lower income parents and 7.69% for higher income parents.

Veronica’s mother (strain score: 6.78) summed up the issues facing lower income families that she served in her community,

It's even a disaster in the home. What happens if you lose power? What happens if the mom loses the job, and they lose the car and they can't get to school? They need online schooling. I serve a community in the ghetto that they are at this point, because now there's no financial assistance. They are choosing between food and heat. And it is devastating to watch. And if they don't have a car, how are they getting their kids educated? They don't have computers. They might not have electricity. People can't afford to live let alone be educated.

This quote from Veronica’s mother summed up the increased vulnerability that intersecting identities, such as being a low-income parent of a child with a disability, created for parents during the pandemic. Parents who were poor had to consider not only how to manage with their children in the evenings, but for the whole school day. For some, this meant school from

home without the necessary resources, such as internet access. These conditions add to the further vulnerability of their children.

Some of the more privileged families in this study were better able to provide for their children's needs and hire a nanny or pod teacher to help with childcare and education at home. Kaitlyn and Tanya's mother hired a nanny to come in and help during the day while the children attended school and therapy virtually and their mother worked from home. Judy's parents were able to hire a pod teacher, along with another family, to educate their children during the first year of the pandemic. Liam and Olive's parents hired a teacher for their pod of six kindergarten students. Parents with greater financial resources utilized their privilege to access professional services during the pandemic. This not only benefited their own mental health, but also improved the outcomes for their children as well.

Finally, families that formed pandemic pods were privileged in being able to create a supportive system that substituted for the classroom, teachers, or extended family members. Some of these families shared schooling responsibilities with a group of other families, sharing teaching and classroom time, allowing the off-duty parents to complete other home and work obligations. Other families formed more social pandemic bubbles, which acted as a supportive family network. Members of these bubbles followed shared pandemic guidelines, and shared recreation, mealtimes, social times, and even vacations. This new form of 'family' will be discussed further in the following chapter.

## **Conclusion**

Throughout this chapter, I documented the impact of having children with disabilities during COVID-19 schooling on parental mental health. While families experienced hardships

during the pandemic, those with children needing special education were disproportionately at risk of negative mental health impacts. This finding was expected as past research on parenting children with disabilities found that these parents are under more daily strain than their peers and this is also the case during disaster (McConnell and Savage 2015; Peek and Stough 2010; Whiting 2013, 2014). Yet, the pandemic was unique in that it presented as an inverted disaster. It was ongoing and invaded all public spaces, causing a shutdown of our institutional and social support systems and leading families to socially isolate in their homes. Due to the unbounded nature of this disaster, it was called on schools to continue education, despite school closures. These factors coupled with the lack of planning for an inverted disaster, the increased needs of children with disabilities, and the structural barriers implemented by schools, parents experienced greater strain on their mental health and a lack of support for mitigating risk.

Along with the added stress and feelings of being overwhelmed due to the expectations of new roles and the constraints on their time, parents were socially isolated and felt unsupported. They struggled with fears, anxiety, depression, and hopelessness. Parents of children with disabilities felt they had failed their children and worried about the outcomes for their children and family. As children with disabilities were more psychologically vulnerable during the pandemic, as discussed in Chapter 5, the mental health of their parents became an additional psychological risk factor, impacting their development and wellbeing (Peek and Stough 2010).

As these families experienced hardships, it is also worth noting that some were more deeply impacted than others. This intersectionality of risk was true of single parents (or those whose partners were absent), parents of color, parents working from home, and lower income

families with little access to resources. For parents of children with disabilities, these additional vulnerable statuses compounded the challenges they faced and took an increased toll on their mental health. Other families were privileged with job and income security, the ability to take time off work, having two parents in the home, and higher socioeconomic status that increased their access to resources, ability to hire help, and to form pandemic learning pods.

Some families were able to build up new support systems of resilience and relied on a new form of 'family,' or pandemic bubble to take some of the burden for caregiving and schooling, while also providing social and emotional support. In the next chapter, I examine how parents developed new forms of connection within their existing networks and formed entirely new support networks as a coping mechanism to mitigate the negative impacts of the pandemic. I share findings from social network data that shows how families utilized their social networks to provide and share essential resources, such as material goods, instrumental support, financial support, information, and social support, and how these networks alleviated mental health strain for parents.

## CHAPTER 8

### FOSTERING MENTAL HEALTH RESILIENCE THROUGH SOCIAL NETWORKS

The purpose of this study is to understand the challenges faced by children with disabilities and their families during the pandemic as they experienced changes in schooling, and how families mitigated these challenges. In the last chapter, I examined the changes to education during the pandemic, the differential impacts on students with disabilities and their parents, and how parental mental health was impacted. I found that pandemic at-home learning exacerbated mental health issues for parents of children with disabilities, leading to increased stress, guilt, fear, depression, and anxiety. Drawing on survey and interview data, I documented how these parents experienced increased mental health strain compared with their peers. Importantly, I also found that single parents, parents of color, low-income parents, and parents working from home also experienced greater strain than their counterparts which heightened the social vulnerability of children, amplifying the risks during the pandemic.

In this chapter, I explore how parents garnered forms of support from existing and newly created support networks, and how those networks impacted their mental health and wellbeing. The following research questions guide this chapter:

3. How did parents mitigate the impacts of school closures during the pandemic, despite the unique challenges of the disaster?
  - a. How did parents access their social networks?
  - b. What forms of social capital were shared?
  - c. How did social network characteristics impact the mental health of parents?

In the following sections, I will draw on qualitative interview data to depict the ways that parents utilized their social support networks. To counter negative mental health impacts during the pandemic, I illustrate how parents adapted by creating and strengthening support networks. I will describe the forms of support given and received, including material and instrumental forms of support, and the ways these new social support systems created resilience for parents and their children. I utilize social network data to provide further information on how families received and provided resources within their formed networks, and how these support systems impacted their resilience to poor mental health outcomes. In analyzing social network data in conjunction with the results survey data on mental health, I provide key information related to how one's social network provided a buffer to mental health strain during the pandemic.

### **Support Networks and the Inverted Disaster**

The concept of the “inverted disaster” is key to understanding the differences between the COVID-19 pandemic and other disasters, like hurricanes, tornadoes, and floods. The pandemic was a new type of disaster, in which physical buildings and infrastructure remained intact, yet requirements to socially isolate and quarantine in the home prevented the traditional disaster recovery process from occurring. Isolated family units were separated from their extended family and social support systems, as well as from in-person contact with institutional support such as their children's schoolteachers and therapists. As the inverted disaster separated extended family members living in separate households, and isolated individuals from their friends and co-workers, parents were left to navigate on their own. In

addition to parental networks being fragmented, children were also separated from their own supportive networks of peers, teachers, therapists, and relatives.

As described in previous chapters, parents and children faced challenges due to the loss of supportive social relationships during the pandemic, leading to feelings of loneliness, overwhelm, anxiety, hopelessness, and depression. For parents of children with disabilities, the absence of crucial support, such as respite from family or professional caregivers, compounded the strain as they juggled multiple roles. As these parents managed pandemic life, working from home, and educating their children, they were also burdened with teaching special education, providing speech, occupational, and physical therapy, acting as a counselor, and seeing to their child's socio-emotional development.

As parents continued to face social isolation and uncertainty during the ongoing pandemic, they had to find ways to manage the challenges they were facing, many of which centered on their social networks. Parents found ways to adapt their social networks and build new forms of support to aid them in their response and recovery from the pandemic. In the following section, I will illustrate how parents maintained their social connections, by either continuing to meet in-person or discovering new strategies for connection while maintaining social distance.

### **Re-Imagining Social Support Connections**

Parents relied on their social support networks for sharing resources and information, providing help and services, and socio-emotional support. While many parents were socially isolated from their in-person networks, some parents in this study continued to meet in-person with their family members, friends, and other social groups.

Emma and Rosalie's mother, for example, reconnected with her parents, friends, and church group following the initial weeks of the pandemic. Due to her maintaining in-person contact with her support network, she avoided sustained feelings of loneliness and lost connection.

I just did feel very supported and connected. Still inviting people over to my house and doing all those things after a couple months of not seeing everyone was still totally breaking all the rules. And seeing everybody and doing all the things. That helped me a lot just not feeling so alone in it, I think makes the biggest, the biggest difference.

Some parents maintained contact with a limited group of their family members and friends but also found ways to follow social distancing guidelines in the process. Roy and Vicky's mother comes from a very social family, and it was too difficult for everyone to be physically separated. "We did porch shots is what my sister calls them, where we'd get together at my mom's house and kind of sit scattered about the yard and on the porch." They also met up at food truck rallies. "That was a big thing here during the pandemic because everything was socially distanced." These choices to socially distance while also retaining face-to-face contact helped to minimize the stress and isolation of the pandemic, while also keeping family members safe.

These social interactions were not just limited to friends and family members. Brian and Megan's mother scheduled a regularly occurring bike ride with three of her neighbors, enabling them to socialize from a distance while also getting exercise. "The four of us rode bikes on a weekly basis together for health and exercise, caught up on front porches and in backyards, just to debrief about days, weeks, months." These activities helped her regain resilience during this time by giving her a social outlet during the isolation.

While some parents chose to maintain some form of in-person contact with others, as discussed above, most of the parents in this study followed quarantine and lockdown guidelines. In turn, they were relatively isolated from their in-person social networks during the early months of the pandemic. In-person relationships transitioned to the virtual world, in the form of video calls, group texts, phone calls, virtual gaming, streaming movies concurrently, among other creative means of virtual social connection. Many parents in this study participated in virtual happy hours with friends, family, or co-workers; enabling them to stay connected virtually.

Alice's mother described how her social connections with her knitting group transitioned to virtual space.

So, we met in the before times at something called knit nosh, which was organized by one of my friends in the group. When the world shut down, we agreed that we would meet more regularly via Zoom for knit night. And so, once or twice a month we would meet, you know, on the computer and knit and talk and laugh and cry and do all those things.

These forms of virtual support allowed parents to maintain their social connections and gave them some relief from the pressures of parenting and working during lockdown orders. Parents relied on family and friends in virtual space to provide social and emotional forms of support, without the necessity of in-person connection. They also continued sharing financial resources and information within these virtual networks.

Although some parents remained in contact with their social network, the majority followed social isolation guidelines. These parents tended to be more cautious due to health-related disabilities of their children or themselves. Unfortunately, distanced networks were not conducive to more tangible forms of support, such as sharing material goods, or providing help

with tasks within the home, leading to an even greater disadvantage for these vulnerable families. To meet these needs, parents had to form new support systems.

### **Re-creating Social Networks of Support: Pandemic Bubbles and Pods**

Parents found creative ways to generate new forms of material and instrumental support during the pandemic period of social isolation and quarantine. Two forms of in-person connection emerged to take the place of traditional in-person networks: pandemic bubbles and learning pods. These strategies were used to better meet the needs for resource and responsibility sharing as well as for in-person, safe, social contact, and social-emotional support.

These bubbles or pods formed with the intention of fulfilling specific roles and with shared goals in mind, forming a form of an alternative family support network. Spencer, Alice, James and Violet, and Lillian's families, among others, formed pandemic bubbles. Bubbles consisted of small groups of families who met with each other for social gatherings and to maintain social connections in-person with a limited group of people. These bubbles were often formed with close friends, families from school, or neighbors.

Brian and Megan's mother formed a pandemic bubble with her neighbors to continue having social connection during the lockdown period. She described how her neighborhood community came together during the pandemic to socialize outside and let the children play together, "There was a super cool community that formed right here at home where we'd all just walk out about three o'clock in the afternoon, and everybody would play and tell stories. I mean, that was a beautiful thing."

Joey's mother was also part of a pandemic bubble with one of her neighbors. Both mothers have a child with a disability and were able to support each other during the pandemic.

We practically lived together the whole time that there was the shutdown. So, I feel like when one of us was having an off day, the other one would make dinner or bring over food or a bottle of wine. We watched each other's kids all the time. We constantly were switching kids between homes...We just did life together. It was just a constant sharing of life, everything, just across the board help for both of us going back and forth.

Patty's family formed a pandemic bubble with two close family friends. Her mother felt that without grandparents and other family members available for in-person contact, she and her children needed to maintain an alternative form of in-person support, and she drew on her close friends. Later, she explained how important this connection was for her and her family, "We never totally isolated. Because I think we couldn't have done that. I think that would have been too difficult...There were times when we didn't see people, but it didn't last long. We just had to figure something out."

The second type of in-person social network that developed was the pandemic learning pod. This was formed in response to the educational needs of children and the need to alleviate some of the burden placed on parents during at-home and virtual schooling. The families in the learning pods would trade off days conducting school from home with the children, allowing the other parents to work or complete other household tasks. These pods most often formed with families from the same school, but sometimes consisted of family friends whose children attended different schools.

Luke and his mother were part of a pandemic learning pod with two families from Luke's class. She explained the process of forming the pod,

We took it upon ourselves to create a parent pod...So we ended up talking to a couple of other parents in the classroom. And we went and we met at the park one day, and just said, how can we do this? Do we want to work together? If so, how can we do it? We knew we had to discuss quite a few things...All of our kids were in the same classroom, you know, and so we thought this is the safest that we can get.

Eve and Bria were part of a pandemic learning pod with another family from their school.

Because both sets of parents worked full time, they needed some relief from schooling at home to complete their own work. Their mother explained,

I teamed up with a friend who had three kids at [school] at that time. And we found this hard. Because, again, we all have jobs. And you know, we have stuff to do. And so, we said, how can we make sure that we're making good use of our times where we're not just having to sit at home with the kids from nine to two.

Although the strategies differed across pods, parents like Eve and Bria's identified clear benefits to leveraging other parents, including an enhanced ability to complete their own work. Because these families were already participating in a learning pod together, they often met additional support functions as an in-person unit. Families in the pod shared meals, went camping together, celebrated holidays, and helped each other in other instrumental ways; with parents describing these pods as "their only social outlet", "like our family", and as a tool for reducing stress.

Olive's family joined a pod with five other families of kindergartners and the group hired a teacher to run the pandemic learning pod. They switched whose home to use for the pod each week. The pod helped Olive's mother manage her own level of stress during that time. She described how her family was lucky to have a yard and a nearby park, but she also really valued the in-person contact with their pandemic pod friends. "And then having the pod, having that group of friends. We didn't see anybody else. Us moms hung out a bit...That was nice to have not the busyness and stress and pressure of all of it."

Trust was an essential ingredient to the formation and maintenance of a pandemic bubble or learning pod. Those who participated in this type of in-person social network discussed the fact that their bubble or pod was formed of 'like-minded people,' who felt similarly about safety guidelines and were willing to follow the groups' chosen rules for contact within and outside of the group. Patty's mother explained how this concept of trust was at the foundation of her pandemic bubble as they "decided early on that we were going to be part of the same family." She reflected:

And, you know, the people that we were close with, we had the same values, we were all safe. We all took it seriously. And if anybody wasn't feeling well, or felt like they were exposed, or had, you know, gone somewhere, we'd stay away for that period of time.

Having shared values, like trust and open communication, increased feelings of safety when it came to navigating COVID-19. Luke's mother described how her pandemic learning pod formed their group guidelines:

One thing we had to discuss was our COVID safe behaviors because even at that time, people had different ideas of how they wanted to live their lives, and what would be COVID safe for them. And so, we talked to a number of different families, but chose the pod that we had, because we all agreed that it was basically like, 'This is it. This is our social circle. This is our everything.' And we're not going to get together with other people. We sort of quarantined ourselves in this little bubble.

Luke's mother highlighted how essential feelings of safety and security were to parents as they navigated changes in their environment during the pandemic. In-person social connections had to be negotiated. A sense of trust within these newly formed social groups allowed parents to feel a sense of belonging, safety, and support.

Importantly, though, not all families were able to join a pandemic bubble or learning pod. Children with more significant disabilities were less likely to access learning pods, as their educational and developmental needs would present challenges for other members of the

group and for the other parents attempting to lead the pod. This exclusion was not necessarily explicit, however, parents felt excluded and unable to seek out these supportive in-person networks. As Billy's father explained,

No one wants to be in a pod with our son. His behavior issues are too great. That was never really an option for us. The idea of getting him with six other kids and some parent for remote learning, that was never gonna happen.

Families with increased vulnerability, those exposed to severe learning or health-related disabilities, were often excluded from pandemic learning pods. This exclusion exacerbated the disadvantages experienced by these parents and their children, who were most in need of educational and social support. Without access to a learning pod, parents faced barriers to educating their children, working from home, and accessing critical resources.

Socioeconomic status was another factor in access to learning pods. Families who were strained in terms of financial resources were less likely to participate in a shared learning pod with other families. They did not have the time or space in their homes to host other children and monitor learning. Parents who were able to participate in learning pods were most often married, financially resourced, and had higher educational attainment. These parents had greater flexibility, support, and skills to help other parents with education and to receive support themselves. Access to learning pods was most inaccessible for parents of lower socioeconomic status who also had a disabled child. Unfortunately, these were also the parents who would have benefited the most from these arrangements.

While parents were often able to receive social support, information, and financial resources from their traditional social networks, pandemic bubbles and learning pods were better designed to provide in-person support, services, and material goods. As parents were cut

off from their traditional in-person networks of support, they formed pods to gain necessary assistance with schooling, childcare, carpooling, household chores, and other forms of in-person help. Access to in-person social groups during the pandemic had a profound impact on the ability to obtain resources and instrumental support, increasing resilience and wellbeing for families during the pandemic. In the following section, these forms of support will be explained in more detail.

### **Forms of Shared Support**

As described above, parents accessed their traditional social support networks in new ways and created new social support systems. These different network configurations provided a variety of support types. In the following sections, I document the types of support provided across different social network types, including social-emotional, financial, instrumental, and informational support.

#### ***Social-emotional Support***

Parents maintained their traditional support systems through distanced in-person contact or via virtual space and created new forms of support through pandemic bubbles or learning pods. They frequently reported that these connections provided them with social and emotional support. Social support was one form of support that was able to pass through virtual space and became a form of comfort and resilience for parents. Luke's mother reported having a strong relationship with her mother. When asked how her mother supported her, she replied, "I would say, mental health support. So, the times where I just needed my mommy, you know, I could go to her house and just like, make a cocktail and watch a movie or whatever."

Billy's father felt supported by a small group of friends and teachers. "We lifted each other's spirits up, you know, bring a six pack or homemade bread or something like that, you know, talk over zoom. We would have a weekly zoom call with a couple friends of ours." These small acts of support, while appearing minimal, increase sense of belonging in a social group, and enhance resiliency and emotional wellbeing. For parents struggling with pandemic school closures, these forms of social support can bolster their ability to handle these challenges.

Parents of children with disabilities reported that they relied on their social networks for support during at-home learning. Spencer's mother relied on her mother-in-law for social support, as well as helping in the home, cooking, cleaning, and helping with the children's schooling. Parents like Todd's highlighted the importance of leaning on family members and friends, especially those with shared similar life experiences like raising a child with a disability.

Lori's mother, for example, was part of a network of mothers of children with disabilities in their neighborhood. She said, "These people have kiddos with significant needs, so they were definitely ones that were struggling with the remote structure the most." She relied on this group for information, resources, and social support as they advocated for their children's needs and for a return to in-person learning. In her interview, she described a situation where this network of mothers advocated for their children to return to school but found that paraprofessionals were then required to wear full personal protective equipment (PPE) when interacting with their children. This marked them as being disabled and different from their peers. Lori's mother reached out to her network of moms for support and collective action. "We usually leverage as a community, those thoughts and feelings and determine if it's a

collective issue. We escalated as a collective. And if it's not, then we just provide supports to each other in that fashion.”

One form of social-emotional support that was greatly needed during the lockdown period of the pandemic was finding ways to celebrate birthdays, especially for children. Many parents in the study were supported by their networks and created meaningful celebrations for their children during the pandemic. Vanessa’s mother described how her daughter was embraced by a close friend despite her disability.

So, Vanessa's birthday was during COVID, kind of right at the height of it. We did a drive by birthday thing, like a lot of people were doing and stuff, and my friend just went sort of all out and, you know, balloons and everything, she went way above and beyond to make Vanessa feel special, because she knew that Vanessa needed that.

These celebrations are not only important for the children, but they also provide parents with important benefits. They felt supported by their community in celebrating their children and sharing these experiences with others. The ability to provide their children with a ‘normal’ birthday, however abnormal these events were, increased their feelings of success as parents.

### ***Information Sharing***

Parents provided their family and friends with information during the pandemic, including sharing medical advice, COVID-19 safety guidelines, and even how teaching older family members how to use technology for better communication with their relatives. Parents also received information from knowledgeable experts in their social networks. Much of this information was related to the pandemic, health and safety guidelines, or educational resources. This was especially important for parents of children with disabilities, who lacked in-person access to their network of educators and therapists. For example, Todd’s mother was struggling with Todd’s behavioral issues and reached out to a professional in her social network,

“She sent me an email of a list of resources specifically for autism, but I mean, just giving me that support of just telling me it's okay, and then giving me a list of resources. That was huge.”

Lori's mother was confused about the school policies around children with disabilities and education during at-home learning. She reached out to a neighbor who works for the school district, “She was very helpful to me kind of helping me to understand what was happening behind the scenes with the school district and just helping me strategize ways that I could bring up feedback or opportunities to our staff.” This type of information sharing helped parents take control over their circumstances and make appropriate decisions, enhancing their resiliency. Parents with access to knowledgeable others had an advantage that also benefited their friends and family. In the case of Lori's mother, information was shared with others in her network, increasing the knowledge of the community. Parents without these resources, and without access to institutional support, lacked essential information about health, safety, and education.

### ***Financial Support***

Financial support received by participants of this study sometimes arrived through local organizations or public welfare systems. For example, when asked about their social support networks, Luke's mother named “Unemployment” as an organization in her resource and support network. Eve and Bria's mother was a student who received COVID Cares funding through her university. Low-income parents in this study received support in the form of SNAP benefits and subsidized housing programs.

Some parents also received financial assistance from their own parents to pay phone bills, help with the mortgage, or buy groceries. Emma and Rosalie's mother had friends who

helped her financially by paying for a weeklong summer camp for her children. They also helped with childcare and groceries. Blake and Joy's mother received a life changing financial gift from her close friends to help her move and start a new life after her landlord raised her rent \$400 at the start of the pandemic.

They knew I'd been wanting to move, and our neighborhood was getting more and more unsafe, but this was like the final kicker...I could definitely afford a house payment, it was just getting into the house, and getting that started. They gifted me the downpayment for my house. And they will not let me pay them back. They will not let me do it.

Parents in this study also helped others in their networks financially. Parents had concerns about their friends who had lost their jobs because of the pandemic. They found ways to support them by giving them money, buying goods, or fundraising for those in need. These financial forms of assistance were invaluable to the parents in this study and to those they shared with. For those who were low income or lost their jobs, having a supportive social network that provided access to monetary resources allowed them to pay for their basic needs and maintain security. Parents without access to these forms of assistance faced compounding challenges, as they experienced financial stress, and tried to meet the needs of their children.

### ***Instrumental Support***

Instrumental support was common among families belonging to pandemic bubbles or learning pods. Stan and Lina's mother received childcare for her children, as well as financial help, from her mother. Other parents in the study also shared childcare responsibilities with neighbors and other resources, food, groceries, and medicine. Emma and Rosalie's grandmother continued to help their mother with childcare and "cooking dinner, we just show

up at her house. And I'm like, I don't have it in me and just eating dinner over there. So, my mom's the best."

Vanessa's mother relied on a parent in her pandemic bubble for carpooling her daughter to sports.

It was a lot of driving-sharing, driving with Vanessa's sports and that kind of thing...And sometimes it was, you know, grab some dinner on the way home because she had the next thing to go to and that kind of stuff. So, it was just sort of a solidarity from one busy mom to another kind of thing.

Obi and Eli's mother also received help from a neighbor when she struggled with her car or household appliances. "Most times when my car is not working, and was it my washing machine? Something, one of my electronics was not working. So, my neighbor, he came into the house with a double mask and helped."

These examples highlight the many ways parents accessed instrumental forms of support during the pandemic. Without access to their traditional relations and institutional or professional support systems as would be the case during a typical disaster, they often forged new connections through the safety of a pandemic bubble or learning pod. Within these networks, they received help with educating their children, taking care of the home, vehicle maintenance, obtaining resources, and running errands. This was especially important for parents working from home, single parents, and for parents of children with disabilities, as they took on additional supportive roles for their child. Unfortunately, children with disabilities were more often excluded from pandemic learning pods, increasing their disadvantage and that of their parents. As the inverted disaster created a barrier to traditional support systems, these families were doubly disadvantaged as they were socially isolated and unable to access new forms of support during the pandemic.

## ***Material Resources***

While some parents in this study received or shared financially with others, it was more common to give and receive material goods and share within traditional networks or in pandemic bubbles or pods. This was especially true during shortages of necessary household goods such as sanitizing wipes and toilet paper and during the lockdown period when parents were trying to avoid public spaces as much as possible. Parents received groceries, homemade meals, household goods, and items necessary during the pandemic.

Billy's father explained that his friends have a medically fragile child, and they were in constant need of sanitizing supplies due to her condition. He and his wife tried to supply them any time they were able to load up on supplies.

They need to have things like Clorox and Clorox wipes on hand all the time constantly for everything. And so, during the pandemic, when that stuff was in short supply or gone, it was really stressful for them because they can't run out of this. So, every time we'd go to Costco, if they had the Bleach Wipes, hand sanitizer, sanitizing spray, hand soap, anything, we just buy it and then ask them if they needed it. We'd drop stuff off for them all the time so they wouldn't run out. Because at the time, you couldn't buy more than three tubs of wipes at a time.

During the early days and weeks of the pandemic, it was difficult to find face masks and you were unable to go to any essential service without one. Many parents received masks from people in their networks or made masks for others. Eve and Bria's mother was grateful for the masks she received from a co-worker,

I had a colleague who made all of us masks when I think she knew her way around the machine, and that was our first mask. You know, it was very cute. And we were grateful, because we're like, finally we can actually go out. It was really a blessing for her to bring that over.

In a time when people were asked to socially isolate and goods were scarce, having the social capital available to receive goods through one's social network was an advantage that not

everyone had during the pandemic. Parents in this study expressed their gratitude to others who provided resources that they were unable to access themselves. Parents who were unable to leave their homes, due to having a medically fragile child, or a disabled child who could not be on their own, relied on resource sharing to survive and cope with the challenges they faced. Parents who did not have access to resources through their support networks had the added burden of getting materials on their own or going without.

### **Social Network Analysis**

Whether within newly formed pandemic bubbles and learning pods or through social distancing and extended virtual connections, families reported the ways they received and provided support and resources within their support networks. These forms of support that social networks provided were not only valuable in terms of their immediate purpose, such as providing groceries for meals or information about schooling, but they also had a profound impact on the mental health of parents. Having a supportive social network reduced stress, increased positive wellbeing, and decreased worry. In this section, I will describe the structure of those networks and then show how network statistics and structures influenced mental health outcomes for parents during the pandemic.

As part of the social network survey, parents were asked to identify up to 10 people or local organizations in their social support networks during the pandemic. Specifically, they were asked to identify up to 5 people they helped the most during the pandemic, and up to 5 people who helped them the most. They were then asked to identify the relationship they have with each person in their social network and the types of support they received or provided to each person. Next, they were asked to share demographic information about each person in their

network, including gender, age, work status, parental status, geographical distance from the participant, and how long they had known each person. Finally, parents indicated whether the people they listed had social connections, or ties, with the other members of the network.

Social network analysis revealed several aspects of parent's resource networks, including their size, structure, connectivity, and diversity of relationship roles and types of resources provided by members of the network, and the strength of these ties. These aspects of the social network structure were dichotomized and added together to create an overall strength of network score and then correlated with the mental health strain of parents in the study.

### ***Descriptive Network Statistics***

The size of parent's networks was a key aspect of their support systems. Parents were asked to identify up to 10 individuals or organizations in their networks. It must be noted that some respondents named a pair of individuals as one relation in their networks, e.g., "parents" which I then separated into individual nodes for the purposes of network analysis. For this reason, some of the respondents had more than 10 people, or alters, in their support networks.

The size of parent's social networks varied between 4 and 14 alters (individuals or local organizations), with an average network size for this sample was 7.79. See Table 8.1. There were a few factors that influenced average size: work status and income. Parents who worked away from home had an average network size of 6.83 compared with 8.75 for parents who worked from home. Low-income parents had an average size of 7.00, while higher income parents had an average size of 8.05.

In addition to analyzing the size of the full network, the size of the support network was also calculated. This included only those alters who provided some form of support to the participant. The average support network was size 6.90. Notable disparities were present for single parents with an average support network size of 7.60 compared to 6.53 for dual parent households. Another notable difference was evident for work status with an average size of 8.25 for parents who worked from home, and a size of 4.83 for parents who worked away from home. These results indicate that low-income parents and parents working from home required more assistance from their support networks than their peers. Low-income parents needed support financially and with material goods. Parents working from home struggled more with working while also caring for children. They relied more on others for instrumental tasks.

Table 8.1. Descriptive Statistics for Respondent Ego Networks

	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>Median</b>	<b>Std. Dev</b>
Network Size	4	14	7.79	8	2.08
Network Size (support only alters)	3	13	6.90	7	2.44
Role Diversity	2	5	3.45	4	1.18
Role Diversity (support only alters)	1	5	3.10	3	1.26
Types of Support Received	2	5	3.74	4	0.88
Total Number of Support Received	4	24	12.52	13	4.79
Total Number of Support Given	1	21	12.86	13	4.60
Density	0.24	1.00	0.48	0.44	0.17
Mean Degree	1.71	6.4	3.58	3.56	1.23
Mean Betweenness	0	4.93	2.11	2.00	0.98
Centrality	0	0.76	0.52	0.56	0.17
Triangles	0	180	43.86	33	43.20

Two hundred twenty-four alters were named in the social network survey by 29 participants. See Table 8.2 for full list of alter demographics.

Table 8.2. Alter Demographics (n=224)

	Frequency	Percent
<b>Relation</b>		
immediate family	52	23.2
other relative	6	2.7
friend	72	32.1
neighbor	22	9.8
coworker	22	9.8
child's teacher	6	2.7
parent from school	19	8.5
local organization	8	3.6
other acquaintance	12	5.4
professional	5	2.2
<b>Gender</b>		
Female	155	69.2
Male	38	17.0
Missing/NA	31	13.8
<b>Age</b>		
18-29	14	6.3
30-44	87	38.8
45-59	43	19.2
60+	29	12.9
Missing/NA	51	22.8
<b>Employment Status</b>		
Working FT/PT/Self	129	57.6
Not Working	45	20.1
Missing/NA	50	22.3
<b>Parental Status</b>		
Yes	124	55.4
No	64	28.6
Missing/NA	36	16.1
<b>Time</b>		
less than 1 year	2	0.9
1-2 years	30	13.4
3-4 years	44	19.6
5+ years	115	51.3
Missing	33	14.7
<b>Distance</b>		
this person lives with me	11	4.9
less than 30 minutes	124	55.4
30-59 minutes	11	4.9
1-2 hours	10	4.5
3+ hours	25	11.2
Missing	43	19.2

Alters listed in these social networks were most commonly friends (32.1%), immediate family (23.2%), neighbors (9.8%), co-workers (9.8%), and parents from school (8.5%). To a lesser degree, parents listed teachers, other relatives, acquaintances, local organizations, and professionals, such as therapists and pediatricians.

Role diversity was defined for this study as the number of distinct types of relationships present in one's social network. The average role diversity present in parents' support networks was 3.10, meaning that they received support from three different types of relations during the pandemic. Differences in diversity for each demographic group are displayed in Table 8.3.

Alter demographics were provided by the participants. Gender of alters in these networks, not including organizations, were primarily female (80.3%). This was expected as the participants in the social network survey were also most often female (96.5%). This gender disparity is also consistent with the literature on gender during disasters. Women most often take caregiving and community-based roles during a disaster. They are more likely to organize and participate in supportive practices within their social connections. Women who participated in this study identified that other women filled these supportive roles in their lives.

Alters varied in terms of age, employment status, parental status, physical distance from ego, and length of time of the relationship. The majority of alters were aged 30-44 (50.3%) and 45-59 (24.9%). For employment status, 74.1% of alters were employed either full time, part time, or self-employed. 66.0% of the alters were also parents of school aged children. The majority of alters listed had known the respondent for 5 or more years (60.2%). Only 1.0% were known for less than a year. The majority of alters also lived within 15 minutes of the respondent (51.9%) or lived with the respondent (6.1%). See Table 8.2 for additional details.

Ties connecting the parent to each alter included financial support and material resources, information sharing, instrumental support such as childcare, and socio-emotional support. The types of ties between each ego and alter varied between 1 and 5 types of support, with an average of 3.74. The total number of support ties received by participants ranged between 8.50 and 15.31, with an average number of supports at 12.52. The largest disparity existed for parents who worked from home who received an average of 15.31 support ties from their support network compared to parents who worked away from home who received 8.50 supports. See Table 8.3 for more detail on these data by demographic groups.

As described previously, support was most divided between traditional support networks which provided financial, informational, and social support, and newly formed networks that included instrumental support, material resources, as well as in-person social support. Social support was indicated most often between family members and friends. Financial support primarily came from family members and institutions. Material resources were shared between friends and neighbors. Instrumental support was shared most often between family members, parents from school, and neighbors. Information sharing occurred between parents and knowledgeable experts in their social networks.

Degree, density, betweenness, centrality, and triadic closure were analyzed for each support network in the study. Degree is a measure of how many contacts a person has in their social network. Density measures the interconnectedness of the network. Betweenness is calculated by analyzing the shortest paths linking people in the network. Centrality measures the importance of a person in the network. Triadic closure is the sum of closed triads in the network. Each statistic provides information for understanding how connected members of a

social network are and indicate a person's ability to access social capital. For a breakdown of these statistics, see Table 8.1. Network statistics by demographic group are shown in Table 8.3.

The structure of social networks varied along a spectrum from fragmentation to connectivity. At the most fragmented, star patterns were present, in which the participant existed at the center of the network with each supportive alter tied to the participant but having no social ties to other alters. In more connected social networks, participants and alters were connected to each other through multiple ties existing between alters. At the most extreme, these networks represent a closed community where each member of the network was connected to each other member.

Figure 8.1 depicts two network maps. The star network is the most fragmented, while the centralized network represents a connected community (Sueur, Deneubourg, and Petit 2012). These patterns of connectivity are significant because they indicate whether a person in the network has access to forms of social capital and whether they can mobilize that capital. Centralized, connected networks provide greater access to resources for their members. Members of a stronger network may also feel that they are better supported, because they believe the people in their networks are well connected and will support each other. Having a dispersed network gives a sense of disconnection and lack of support.

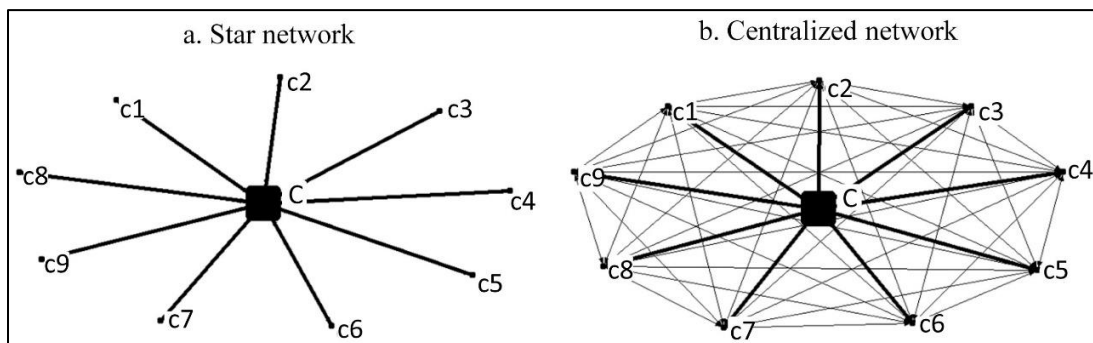


Figure 8.1. Personal Network Connectivity Patterns (Sueur et al. 2012).

Table 8.3. Descriptive Network Statistics by Demographic Groups

	Total n=29	Disability	No disability	Single parent	Dual parent	Low income	High income	Work away	Work home	Non- white	White
Network Size	7.79	8.05	7.22	8.10	7.63	7.00	8.05	6.83	8.75	7.89	7.75
Network Size (support only)	6.90	7.00	6.67	7.60	6.53	6.43	7.05	4.83	8.25	6.89	6.90
Role Diversity	3.45	3.45	3.44	3.60	3.37	3.71	3.36	3.50	3.69	3.33	3.50
Role Diversity (support only)	3.10	3.05	3.22	3.50	2.89	3.43	3.00	2.83	3.56	3.00	3.15
Degree	3.58	3.69	3.32	3.24	3.75	2.76	3.84	3.40	3.68	4.06	3.36
Density	0.48	0.48	0.46	0.41	0.51	0.40	0.50	0.50	0.45	0.52	0.46
Betweenness	2.11	2.18	1.95	2.43	1.94	2.12	2.10	1.71	2.54	1.91	2.20
Centrality	0.52	0.52	0.54	0.59	0.49	0.60	0.50	0.50	0.56	0.48	0.54
Types of Support Received	3.74	3.55	4.00	4.00	3.58	4.43	3.50	3.50	3.88	3.78	3.70
Total Number of Support Ties	12.52	12.30	13.00	13.10	12.21	11.43	12.86	8.50	15.31	12.56	12.50
Triangles (no ego)	18.62	21.75	11.67	13.50	21.32	6.00	22.64	13.50	21.38	24.67	15.90

Table 8.4. Descriptive Network Statistics by Mental Health Scores

	Total n=29	high stress	low stress	low wellbeing	high wellbeing	high worry	low worry	high strain	low strain
Network Size	7.79	7.60	7.83	7.25	8.00	7.17	8.24	6.75	7.96
Network Size (support only)	6.90	6.60	6.96	6.25	7.14	6.00	7.53	5.00	7.20
Role Diversity	3.45	3.60	3.42	3.13	3.57	3.08	3.71	2.75	3.56
Role Diversity (support only)	3.10	3.20	3.08	2.63	3.29	2.58	3.47	2.00	3.28
Types of Support Received	3.74	4.00	3.67	3.63	3.76	3.92	3.59	3.50	3.76
Total Number of Support Ties	12.52	12.20	12.58	11.25	13.00	10.00	14.29	7.75	13.28
Degree	3.58	3.74	3.54	3.46	3.62	3.46	3.66	3.73	3.55
Density	0.48	0.51	0.47	0.49	0.47	0.51	0.45	0.55	0.46
Betweenness	2.11	1.93	2.14	1.89	2.19	1.85	2.29	1.51	2.20
Centrality	0.52	0.49	0.53	0.51	0.53	0.49	0.55	0.45	0.54
Triangles (no ego)	18.62	16.20	19.13	12.38	21.00	16.00	20.47	12.00	19.68

## Network Strength

To better estimate the effect that the structure of a network had on parents during the pandemic, a measure of network strength was calculated for each ego network. Network strength was operationalized as a combination of large network size, role diversity, variety of types of support received, and number of support ties received, as well as high density, degree, betweenness, and triadic closure. For each ego network, a binary variable was created for each of these network statistics. Scores lower than the median were given a 1 and scores at the median or above were given a 0. These eight variables were then added together to create an index score for network strength.

Network strength ranged from 1 (very strong) to 7 (very weak). The average score was 3.65. Higher than average scores of 4 and greater were considered weaker networks, while lower scores were considered stronger networks. By these measures, 15 of the social networks in this sample were categorized as weaker networks. This quantitative measure provided the ability to quantitatively show a correlation between weaker networks and greater mental health strain during the pandemic for parents of school aged children. The results of this analysis will be described in the following sections.

In the next section, I show how network statistics as described above influence mental health indicators for this sub-sample of parents. I then describe the network structural patterns present for exemplar cases from this sub-sample and how these patterns related to experiences with mental health strain during the COVID-19 pandemic.

### ***Social Network Statistics and Mental Health***

The social survey conducted with parents in this study included scales indicating their perceived stress, wellbeing, and worry during the pandemic and school closures. These mental health indicators were then analyzed in comparison with social network statistics, including the network strength score. In addition to these mental health scales, a composite score for strain was created by summing the average stress, wellbeing, and worry scores for each participant. Strain scores for this sub-sample ranged from 5.69 to 12.74, with lower numbers indicating less strain, and higher scores indicating more strain on mental health and wellbeing. Analysis was conducted based on these social structure statistics and on the structure of individual social support networks. In the following section, I will describe how the strength of networks was correlated with poor mental health strain.

Findings suggest that parents who experienced higher strain on their wellbeing with scores above 11.50 show key differences in their social networks as compared to parents who experienced low strain with scores below 8.50. First, for parents with high strain, social networks were smaller in size with an average 6.75 alters compared with 7.96 for those with low strain. When looking specifically at supportive connections, the disparity widens from a size of 5.00 alters to 7.20 alters, respectively. Parents with high levels of strain had an average of 2.20 less social support connections in their social networks. Of parents with lower network size of 7 alters or less, 28.57% reported high strain, compared with 0.00% of their peers who had 8 or more alters in their social networks.

Parents with high strain also had less role diversity in their social networks, with an average of 2.75 roles per network, compared to those with low strain who had an average of

3.56 roles per network. When looking solely at role diversity within their supportive relationships, the difference in averages again widens from 2.00 to 3.28. Parents with lower role diversity in their networks, 2-3 roles, 21.43% reported high strain. For parents with greater role diversity, 4-5 roles, only 6.67% reported high strain. This finding suggests that parents with more relationship types in their networks felt less strain. This could be because they had access to more diverse resources through these varied relationships.

Adding up the total number of supportive ties in one's network shows that those with high strain had less supportive ties overall, an average of 7.75, compared to 13.28 for those who reported less strain. 30.77% of parents who reported lower than the median number of 12 supportive ties indicated high strain, compared to 0.00% of those with 13 or more supportive ties during the pandemic. The number of supports a parent received through their social network was a strong predictor of mental health strain.

Similar patterns were found for betweenness, degree centrality, and triadic closure. For example, the highest quartile for triadic closure was above 67 triads. This group of parents did not report high levels of strain, while 18.18% of those with less than 67 triads did report high strain. Density and degree did not show similar patterns. Triadic closure is an indication of network connectivity. More triads in a network means that the network has more ties between members of the networks. These results suggest that network connectivity is related to a parent's mental health strain. These data are shown in Table 8.4 along with other network statistics.

Finally, when examining the network strength compared with mental health strain, 26.67% of parents with weak networks reported a high level of mental health strain. Those with stronger networks did not report high levels of strain (0.00%). See Table 8.5.

Table 8.5. Percentage of Parents with Poor Mental Health by Network Strength

	<b>Weak Network</b> n=15	<b>Strong Network</b> n=14
Stress	20.00	14.29
Wellbeing	40.00	14.29
Worry	60.00	21.43
Strain	26.67	0.00

Table 8.6 provides a list of ego networks with network strength and mental health strain scores. Participants are listed in order of network strength. Higher scores indicate weak networks, and lower scores indicate strong networks. Table 8.6 corresponds to the network maps displayed in Figure 8.2. Each parent support network is placed in order of network strength, such that ego A has the weakest network and ego % has the strongest network.

Figure 8.2 provides a visual representation of how weaker and stronger networks appear for this sample of parents. Analyzing these network maps by strength and strain shows that those with greater size, density, and diversity corresponded with lower strain.

Stress scores showed a similar pattern in terms of size and total number of supports received, but an opposite pattern for role diversity. Differences between high and low stress average scores were also less disparate. The size of networks averaged 7.60 for those who indicated high average stress and 7.83 for lower stress on average. For size of support only networks, these averages were 6.60 and 6.96, respectively. Of those parents with smaller sized networks of 4-7 alters, 21.43% indicated high average stress. Only 13.33% of parents with larger

networks reported high stress. This shows that parents with larger social networks were able to mitigate stress better than those with smaller networks.

Table 8.6. Participant Network Strength and Mental Health Scores

Identifier	Network Strength Score	Mental Health Strain Score	Child with Disability
A	7	12.54	Y
B	7	9.36	
C	6	10.37	
D	6	9.54	Y
E	5	10.72	Y
F	5	10.21	
G	5	10.04	
H	5	8.93	
I	4	12.74	Y
J	4	12.56	Y
K	4	11.73	Y
L	4	11.33	Y
M	4	10.57	Y
N	4	6.78	Y
O	3	11.00	Y
P	3	10.87	Y
Q	3	10.69	Y
R	3	10.39	
S	3	10.18	Y
T	3	8.44	Y
U	3	8.16	
V	3	7.36	
W	3	5.69	Y
X	2	11.07	Y
Y	1	9.82	Y
Z	1	9.07	Y
\$	1	7.44	Y
&	1	6.98	
%	0	7.36	

For those who experienced higher stress, more role diversity was present at 3.60 compared to 3.42 for parents who reported lower levels of stress. Parents with 2-3 roles in their networks reported high stress 14.29% of the time compared with 20.00% of those with 4-5 roles in their networks.

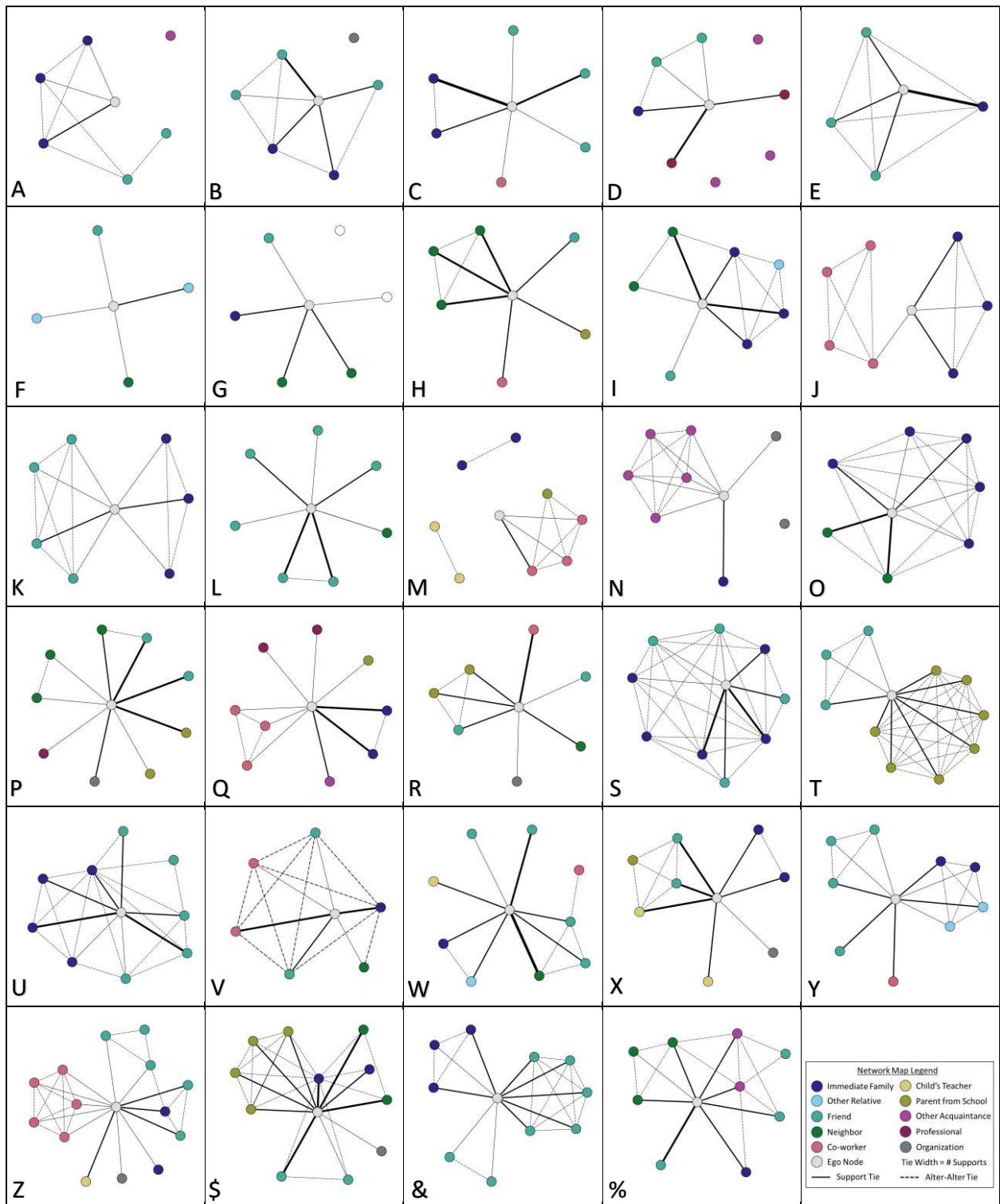


Figure 8.2. Participant Social Support Network Maps in order of Network Strength

The number of supportive ties in total was slightly lower at 12.20 supportive ties for the higher stress parents, compared to 12.58 for their peers. 20.00% of parents who received less than 16 supportive ties reported high stress, while 11.11% of those who received more than 16 supports reported the same level of stress. Again, it appears that perceived stress was greater for parents who did not receive as many forms of support during the pandemic. See Tables 8.4 and 8.5 for additional statistics on ties, degree, betweenness, centrality, and triadic closure.

Overall, parents with weaker networks were more likely to report high average stress. Of these parents, 20.00% reported high stress compared to 14.29% of their peers with stronger support networks. See Table 8.5. These results indicate that the pressures of the inverted disaster were significantly greater for those who did not have a strong social network to rely on during a time of uncertainty, social isolation, and school closures. For parents who had children with disabilities, weak networks compounded the disadvantage they faced.

Wellbeing scores were similarly correlated with network characteristics. Wellbeing scores were lower for parents with networks of smaller size, less role diversity, and fewer total supportive ties. The average network size differed between 7.25 and 8.00 for parents of low wellbeing vs. high wellbeing, respectively. The size of support only networks was slightly more varied with 6.25 supportive ties in the network of those who reported low levels of wellbeing compared to 7.14 for parents who indicated higher levels of wellbeing. Looking at network size, 42.86% of parents with smaller than the median size reported low levels of wellbeing, vs. only 13.33% of parents with larger networks.

Parents with lower wellbeing scores had less role diversity in their networks, with an average of 3.13 roles per network, compared to those with higher wellbeing scores who had an

average of 3.57 roles per network. Examining only the role diversity for supportive ties, the difference in averages widens from 2.63 to 3.29. For parents with less role diversity in their networks (2-3 roles), 35.71% reported low wellbeing. Of those with greater role diversity in their networks (4-5 roles), 20.00% of parents indicated low average levels of wellbeing.

The total number of all supportive ties is 11.25 on average for parents with low wellbeing scores compared to 13.00 supportive ties for parents who experienced greater wellbeing. When examining parents with lower number of ties, 12 and below, 30.77% reported low wellbeing. For those with 16 or more supportive ties, only 22.22% reported low wellbeing. See Tables 8.4 and 8.5 for additional network characteristics and their correlation to wellbeing trends.

When looking at the overall strength of these networks and their impact on mental health, 40.00% of those with weaker networks reported low wellbeing scores, while only 14.29% of parents with stronger networks reported the same low levels of wellbeing. This suggests a correlation between the structure and connectivity of social networks and parental wellbeing. Parents with stronger networks that were larger, more diverse, and more connected, were more resilient to the stressors of the pandemic and rated their wellbeing higher than their peers. For a parent with a disabled child, who may face additional stressors such as being low-income or a single parent, having a strong network could mitigate wellbeing, providing a buffer. A parent under these circumstances without a strong network had less resistance to these strains. See Tables 8.4 and 8.5.

Worry scores were strongly correlated with network characteristics. Greater worry was indicated for parents with smaller networks, less role diversity within their networks, and fewer

total number of supportive ties. The average size of a network for those who experienced high levels of worry was 7.17 compared to 8.24 for those with less worry on average. The size of support networks showed a greater and similar pattern, with an average size of 6.00 vs. 7.53, for each respective group. For parents with smaller than the median network size, 64.29% reported high levels of worry during the pandemic. Only 20.00% of parents with larger network sizes reported the same.

Parents who reported higher levels of worry also reported lower role diversity within their social networks, with an average of 3.08 roles. Parents with lower levels of worry had an average of 3.71 roles within their networks, for a difference of 0.63 roles between these two groups. Role diversity of supportive alters showed an even greater difference between these two groups of 0.89 roles. 57.14% of parents with less role diversity of 2-3 roles in their networks reported high average worry, while 26.67% of parents with greater role diversity reported these levels of worry. The total number of supportive ties was also lower for parents who indicated greater levels of worry at an average of 10.00 compared to 14.29 for their peers. For parents with the lowest numbers of supportive ties, 12 or less, 61.54% reported high levels of worry. Only 11.11% of parents with 16 or more supportive ties indicated high average worry. This indicates that worry was correlated with the number of supports a parent received during the pandemic. Parents receiving many types of support from more types of people in their networks provided a buffer to the worries of pandemic life and school closures.

These patterns are again evident when examining the strength of networks. Of those with weaker networks, 60.00% indicated high average worry during the pandemic. Parents with stronger networks were less likely to report high worry, with only 21.43% scoring in the high

range. These patterns show that parents who experienced the pandemic as members of a strongly connected social network were better able to manage their worries. Perhaps this was because they were better able to access resources of support through their network, or because of a perceived sense of support. Either way, the structure of the network played a key role in parental resilience. See Tables 8.4 and 8.5 for a summary of these data. See Appendix A for further breakdown of each network statistic by mental health scores.

### ***Social Network Structure and Mental Health***

The network structures, depicted in sociograms, illustrate the differences between networks associated with low and high strain. Parents with the lowest strain scores belonged to networks that were more highly connected with more closed triads between alters in the social network, were greater in size, had greater diversity of relationship roles, and had a greater number of supportive ties. The shapes of these networks tended to form a denser pattern of connections. On the other hand, parents who indicated the highest strain scores had social networks that were generally more fragmented, following either a star or butterfly shaped pattern. These networks tended to have fewer closed triangles than their peers, in addition to being smaller in size, less diverse, and had fewer social support ties between the parent and their alters.

Before providing examples of this phenomenon, it is important to note that parents who experienced high strain were also more likely to have a child with a disability. In fact, every parent with a strain score over 10.50 had a child with a disability. They were also more likely to be a racial minority (36.36%), live in a single parent home (27.27%), and low-income household (18.18%). Parents who reported low strain scores below 8.50 were more likely to be white

(77.78%), in dual parent households (77.78%), and more likely to have a middle to high income (88.89%). Disability was present for 44.44% of these households. These factors were expanded upon in the previous chapter.

#### Two Cases: Networks and Mental Health

The descriptions above only go so far in explaining how social network structures were correlated with mental health strain during the pandemic and school closures for parents of school aged children. Two exemplars will illustrate this point further.

Luke's mother, Stephanie, is a Hispanic woman, and is approximately 40 years old. She is married and lives in her home with her husband and son. Stephanie worked from home and her husband also started working from home during the pandemic. They had a combined income between \$75,000 and \$100,000 per year. Luke was in 1<sup>st</sup> grade at the start of the pandemic in the spring of 2020. He has a specific learning disorder and struggles with reading, which he received additional support in reading from his school. When schools shut down in March 2020, Luke's class transitioned to virtual learning, and they maintained this modality through the 20/21 school year. Stephanie joined up with two families from Luke's class to form a pandemic learning pod. They shared responsibilities for managing schooling during the week while also sharing in each other's lives and providing each other with many forms of support during the pandemic.

Andrew's aunt, Julie, is also a Hispanic woman in her 40s. She is married and she and her husband both worked outside of the home prior to the pandemic. Julie worked only part time after the pandemic began due to business closures and reduced work hours. Together, Julie and her husband made a combined income between \$75,000 and \$100,000 a year. Julie had a

daughter in 4<sup>th</sup> grade and a son in kindergarten in the spring of 2020. She also had a toddler at home. During virtual learning, Julie managed her children's schooling, along with schooling for her 1<sup>st</sup> grade nephew, Andrew. He also has a specific learning disorder and struggles with reading.

Each of these women's experiences were similar in some ways, but vastly different in others. Stephanie scored low on mental health strain with a score of 7.44. Her average scores were as follows: stress 2.20, wellbeing 3.93, and worry 3.17. During her interview, Stephanie expressed feelings of hope and resilience. She referred to her strong support system and her own coping strategies to help her mitigate mental health strain. At the other extreme, Julie scored a mental health strain score of 12.56. Her average scores were stress 4.20, wellbeing 1.79, worry 4.33. In Julie's interview, she spoke about her lack of support, her struggles, and how hopeless she felt during the pandemic and school closures.

While each mother handled the at-home learning of multiple children, Stephanie felt the support of her social network, while Julie did not. These experiences were evident when comparing their ego networks. Stephanie indicated that she had 11 people in her support network, and each alter supported her in multiple ways. In addition, she had high role diversity in her network, with 5 different types of relationships within her network. This included immediate family members, neighbors, parents from her child's school, friends, and a local organization. She referred to 24 different supportive ties within her network and she helped others in her network for a total of 19 types of support.

Stephanie's support network structure was dense and highly connected as the alters in her network were also socially connected and supported one another. The average degree was

4.67 and betweenness centrality was 3.17. As shown in the network map below, her husband was a key support in her network, and he was also tied to the other people in the network. The parents who formed Luke’s pandemic learning pod are shown in orange. Friends in pink and neighbors in yellow also formed well connected structures for Stephanie and her husband illustrated by closed triads.

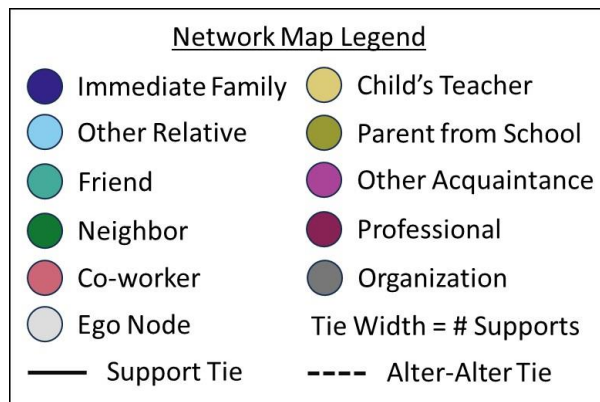


Figure 8.3. Network Map Legend for Ego Networks

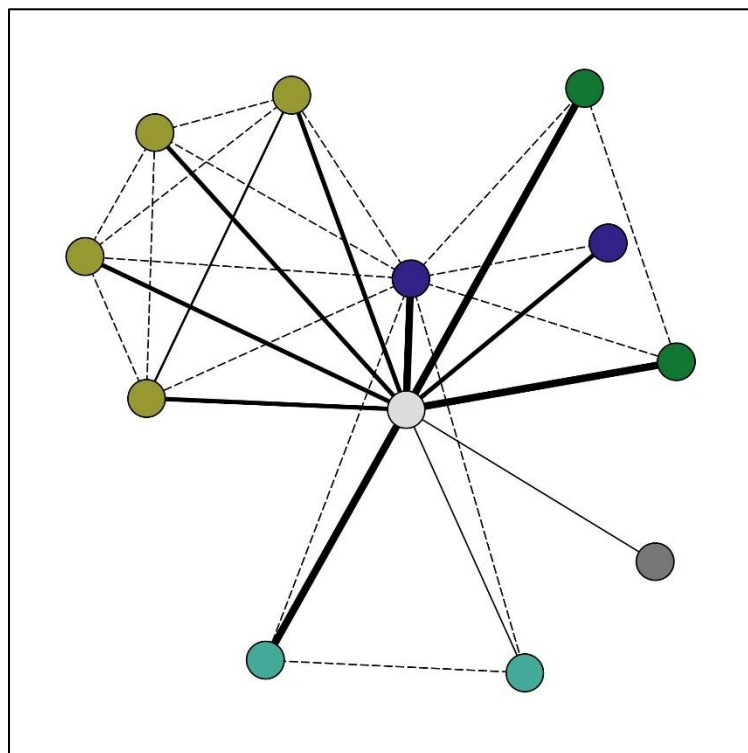


Figure 8.4. Stephanie’s Social Support Network Map

Julie's social network was clearly different from Stephanie's in these key dimensions. Julie had only 7 people in her social network and only 4 of these alters provided support to Julie. She had a role diversity score of 2, which included her immediate family and her co-workers. She indicated 6 total supportive ties, while she provided 17 supportive ties to those in her network. Much of her support went out to co-workers who did not reciprocate.

The structure of Julie's network was more fragmented than Stephanie's network with fewer connections existing between each alter. The average degree for this network was 4.00 and betweenness was 1.50. As shown in the network map below, Julie had one supportive tie from one co-worker, but did not receive help from the additional 3 co-workers in her network. She also received support from immediate family members, in light blue, who were related to one another. Missing from her support network was her husband, who Julie did not find to be supportive of her during the pandemic in either material or instrumental ways.

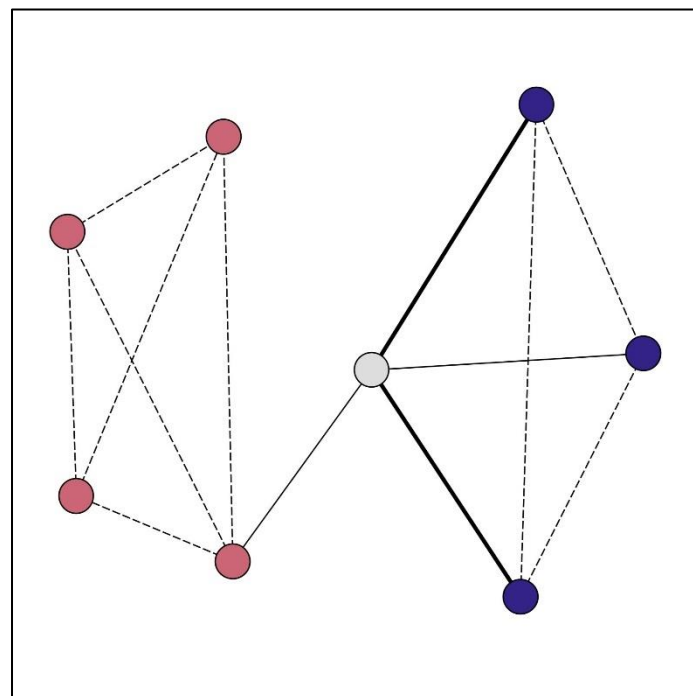


Figure 8.5. Julie's Social Support Network Map

Comparing these two social networks provides a clear illustration of how network structure can influence the experiences and mental health strain on parents during the pandemic and school closures. While both mothers managed employment, the home, and 4 school aged children during virtual learning, their support networks differed entirely. Stephanie felt a strong sense of support from 11 individuals in her life. She relied on a variety of relationship types and received and gave a great amount of supports. When examining her network map, her supportive relationships were also highly connected. On the other hand, Julie did not feel a sense of support from the 7 people in her life, 3 of which did not offer any form of support. Her smaller network also had less role diversity, providing less social capital as evidenced by the fewer supportive ties received. Examining her network map visually shows that her network was fragmented with family and co-workers divided and lacking any connecting tie between them.

These exemplars provide an examination of two mothers on opposite poles of the mental health spectrum. Stephanie's mental health was positive during the pandemic. She was able to rely on her large, diverse, and densely connected network for all types of support. This allowed her to cope with the uncertainty and stress of the pandemic and school closures, as she suggested during her interview. Julie's mental health suffered throughout this same time period. Although she was managing much of the same uncertainty and stress as Stephanie, she had a small, nondiverse, and fragmented social network that was unable to provide her with a sense of support.

Two cases are illustrative of the overall patterns and differences in the structure of networks for those with the highest mental health strain scores (over 11.50) compared to those

with the lowest scores (below 8.50). Networks for those who experienced more strain exhibited smaller, less diverse networks, with fewer support ties. These networks display fragmented patterns in star or butterfly formations or fragmented segments. Networks for those with low strain tended toward larger, more diverse networks, with a greater number of supportive ties. These networks also display interconnected network formations with a greater number of ties between alters in the network. These patterns suggest that for parents of children with disabilities, who are more socially vulnerable, strong social networks can act as a protective barrier to mitigate the strain on mental health for parents during a pandemic.

As discussed earlier in this chapter, this pattern again plays out when comparing the network strength scores to our mental health statistics. Parents with the weakest scores for network strength were more likely to experience greater stress, worry, and overall strain, as well as lower levels of wellbeing. Parents with strong networks were able to protect themselves from these strains on their mental health. As the inverted nature of the disaster caused a disruption in access to traditional networks, the strength of one's personal support network directly affected access to support and mental health. Parents relied on new ways to socially connect and developed new support networks to mitigate their mental health risks in response.

## **Conclusion**

In this chapter, I documented how parents leveraged social networks to cope with pandemic induced learning changes and build resilience for themselves and their children. Parents managed their own mental health using personal coping strategies and reaching out to their social networks. Research on networks identified similar patterns during typical disasters (Aldrich 2012; Casagrande et al. 2015; Sadri et al. 2018). My findings contribute to this

literature by exploring how the inverted disaster disrupts networks through social isolation and how families adjust to these barriers, creating new networks and forming new avenues of shared support. Families, physically separated during the pandemic, adapted by maintaining virtual or limited in-person connections, sharing resources, and transitioning to new forms of connection. While these connections improved social and mental health, many disadvantaged parents were still left alone in managing household, work, and the complex needs of their children, from education to physical and emotional health.

Because families had limited access to traditional social relationships and institutions, they created new systems of support to mitigate the harms of the pandemic, aiding in their response to the inverted and ongoing disaster. By forming pandemic bubbles or learning pods with like-minded parents or neighbors, they forged new forms of family to share the burden of pandemic life. As part of a new pandemic network, parents shared responsibilities for caregiving, educating, feeding, and socializing. Material goods, instrumental support, financial help, information sharing, and social support became shared resources between members of these pandemic bubbles and learning pods. These ‘families’ took on the traditional care and recovery work commonly undertaken by family networks and close friends during a disaster.

Social network analysis found that parents who relied on larger, more diverse, more supportive, and highly connected networks were better able to mitigate the outcomes of the pandemic and school closures on their mental health. These parents scored lower averages for stress and worry, and higher averages for wellbeing than their peers. Parents who experienced greater mental health strain were also more likely to belong to smaller, less diverse, less supportive, and fragmented networks. For parents most at risk, those with disabled children in

particular, social networks could mitigate the struggles and outcomes on mental health.

Without these protective networks, parents were more likely to experience strain, further impacting their children's social vulnerability and their own ability to cope with challenges.

In the following conclusion, I will show how the inverted nature of the pandemic disaster influenced the experiences and exclusionary practices used by the education system that increased the social vulnerability of children with disabilities, added to forms of conflict in the household as space and roles were melded and confused, and led to negative impacts on the mental health and wellbeing of parents. As parents were separated from traditional forms of support, they found new ways to connect and forge pandemic bubbles or learning pods to replace their traditional networks, creating resilience for themselves and their children.

## CHAPTER 9

### CONCLUSION

The COVID-19 pandemic led to the closure of schools across the United States in the spring of 2020. Over the course of the following two years, students experienced a variety of learning modalities ranging from at-home learning to a return to in-person classrooms. While most students struggled to adjust to these new educational formats, students with disabilities were at a greater disadvantage and in many cases, their access to education was diminished. This study examined the ways students with disabilities experienced education during the pandemic, how these changes impacted their education and development, and how their parents mitigated these challenges despite a lack of in-person institutional and social support.

In Chapters 1-3, I outlined the purpose of this study, the background literature, and the mixed-methods I employed in seeking answers to my research questions. In Chapters 4-8, I shared the results of survey data, interviews, and social network analysis conducted with parents and caregivers of K-8 grade students. This final chapter will conclude the research study. In this chapter, I will first bring attention back to the inverted disaster concept and then provide a summary of the key findings discussed in the results chapters. These findings will now be considered in relation to the research aims and questions, their connection to literature, and their implications for theory and practice. Following a discussion of the limitations of this study, I will offer recommendations for future research on this topic.

## **The Pandemic as an Inverted Disaster**

To fully understand the experiences of children and their parents during the pandemic, the distinct aspects of the inverted disaster need to be defined. Without this context, it is difficult to delineate why and how the pandemic disrupted education and exacerbated inequitable experiences and outcomes for children with disabilities.

As I proposed in Chapter 1, the inverted disaster differs from the typical disaster along four key dimensions:

1) Temporally: The inverted disaster is an unbounded, ambiguous, and prolonged event without clear disaster preparation, response, and recovery phases. This conflicts with the current disaster typology which categorizes disasters into rapid-onset or slow-onset timelines, with defined beginnings and ends.

2) Spatially: The inverted disaster is a geographically unbounded and global event. Typical disasters can be defined in terms of their bounded location and response is limited within those boundaries. The inverted disaster is without spatial boundaries and therefore creates risk to all people and places.

3) Physically: The inverted disaster is caused by an invisible threat to life. Because this threat is unbounded and unseen, social spaces are deemed hazardous. While physical structures remain standing, the potential for risk causes all buildings, such as schools, to be inaccessible and inoperable. This response differs from the typical disaster, in which a visible threat and the resulting physical destruction determines the safety and use of physical spaces.

4) Institutionally and socially: The inverted disaster requires social isolation in response to the unbounded and invisible nature of the threat. This inward social response is the defining

feature of the inverted disaster. As social distancing is instituted across systems, people are isolated from in-person institutional and social support networks, in such a way that they are unable to respond and recover together. This is strikingly different from the response instituted during typical disasters, in which communities come together before, during, and after to enhance resilience and strengthen the community.

The inverted disaster provides a framework for understanding the COVID-19 pandemic and its impacts on children and families. As the pandemic, caused by the invisible coronavirus, was temporally and spatially unbounded, all physical, social, and institutional spaces were deemed unsafe. As quarantine and stay-at-home orders were instituted across systems, families were left to manage the risk on their own, without their institutional and social support systems. These characteristics of the pandemic created an environment in which schools closed their doors, yet they were required to continue educating students, as the timeline for the disaster was unclear. The uncertainty of the pandemic and the lack of preparation for continued learning during such an event led to challenges in the home, increased barriers to education, and negative impacts on children with disabilities and their parents. In the next section, I will describe my findings in relation to the inverted disaster context.

### **Key Findings**

The aim of this study is to examine the challenges faced by children with disabilities and their families as they experienced changes in schooling during the COVID-19 pandemic and to understand the ways parents mitigated these challenges. The research findings from this study are important to the fields of education, disasters, and family policy, as they highlight the

experiences of children with disabilities during pandemic schooling. In this section, I will review key findings as they pertain to my objectives, research questions, and the relevant literature.

The first objective of this study is to identify the educational practices employed during the COVID-19 pandemic and the disparities in access experienced by children with disabilities.

Research Question 1) How was education altered during the pandemic?

Research Question 1a) How did the unique features of the pandemic influence the planning, preparedness, and response of schools to the disaster?

First, I found that schools were unprepared for continued education during the COVID-19 pandemic. Why was this the case? The pandemic was unlike past disasters and did not neatly fit into the current sociological disaster typology (Montano and Savitt 2020). The pandemic lacked temporal and spatial boundaries (Peleg et al. 2021; Yamori and Goltz 2021). The coronavirus put every person at risk of bodily harm (Centers for Disease Control and Prevention (CDC) 2020), yet it did not cause visible harm to structures and infrastructure. Although the pandemic did not lead to physical destruction, it did render institutions and traditional forms of social support inoperable.

This new type of inverted disaster was unprecedented and therefore, our institutions were unprepared to evolve to the unique demands of the pandemic. One major consequence of this lack of planning was that schools across the country did not have adequate plans in place for continued education during a pandemic (Kersten et al. 2022). Schools were unprepared to respond to an inverted disaster. As the timeline for the disaster was unknown, schools were required to continue educating students from home. They instituted at-home and virtual forms

of learning without clear guidelines on how to do so effectively. As new waves of the disaster struck, changes in schooling modalities to hybrid and return-to-in-person created even more uncertainty and confusion for children, parents, and educators. The lack of consistency was especially damaging for children with disabilities who rely on consistent services, accommodations, and modifications to meet their learning needs.

Research Question 1b) How did this response alter educational access and experiences for students with disabilities and their families?

This lack of preparation increased the exclusionary educational practices and structural barriers that were experienced by children with disabilities. Many children in this study were excluded from learning and denied therapeutic services. For students who were included in general or special education classes, access to virtual education and services was especially challenging due to absence of one-on-one assistance, unsuitable accommodations and modifications, gaps in consistent educational and therapeutic services, students' cognitive or physical impairments, and lack of assessment and identification of student needs.

These barriers are detrimental to children with disabilities who are socially vulnerable to changes in their routines and disrupted education and services. They require services, accommodations, and modifications to receive equitable educational access. The inconsistent changes in schooling and the exclusionary practices these children faced were directly due to the inverted nature of the disaster and the lack of planning for such an event by schools.

My findings were consistent with the current research. Studies found that 66.3% of schools were unprepared for closing their schools during a pandemic and 57.0% did not have

plans for continued education during a disaster (Kersten et al. 2022). Studies also found a lack of planning for and access to education for children with disabilities during the pandemic (Broege and Anderson 2020; Morando-Rhim and Ekin 2021; Sonnenschein et al. 2022).

This study discovered key differences in schools that reopened for in-person learning early in the pandemic compared to schools that stayed closed and used virtual or hybrid forms of learning for a longer time period. For students enrolled in schools that remained open for most of the pandemic, students benefited from in-person learning. However, their families reported more uncertainty, illness, and missed days of school and work due to increased exposure to the COVID-19 virus and classroom quarantine procedures. On the other hand, students experiencing virtual school throughout the pandemic consistently attended school, yet the virtual learning modality was less effective, especially for students with disabilities.

Another key finding was that not all students with disabilities experienced a decrease in educational access. Rather, some students with disabilities thrived with the widespread use of virtual learning modalities and accommodations. Those who excelled in this new learning environment were more likely to be students who were older, capable of focusing on their work, and who may have struggled in the past with in-person communication or attendance due to health disabilities. This points to the need for further research on the various learning modalities and their impacts on students with varied disabilities, cognitive abilities, and levels of social development.

The second objective of this study is to assess how those educational practices and structural barriers impacted the social vulnerability of children with disabilities and their parents in disparate ways.

Research Question 2) How did shifts in education differentially impact students with disabilities and their parents?

Research Question 2a) What educational, physical, psychological, and socio-emotional impacts were experienced by children with disabilities?

Second, I discovered that exclusionary educational practices increased the social vulnerability of children with disabilities, impacting their educational, physical, psychological, and socio-emotional progress and development. As these children are at higher risk of poor outcomes during a disaster (Peek 2008; Peek and Stough 2010), they were at even greater risk in the case of the inverted disaster as they were denied access to education and were cut off from their social and institutional support systems for an extended period.

My findings support the projections of researchers early on in spring 2020. A 'COVID slide' was expected (Kuhfeld and Tarasawa 2020), and based on parents' perceptions, it appears to have come to pass. Academically, students across the country experienced learning slides in reading, mathematics, and history (Betthäuser et al. 2023; Fahle et al. 2023; Goldhaber et al. 2022; Kuhfeld and Lewis 2022; Skar et al. 2022; U.S. Department of Education 2023b, 2023c, 2023d). However, these studies do not focus on the learning loss of students with disabilities. Studies found that children with disabilities had greater learning losses than their peers (Fuchs et al. 2023). These disproportionate outcomes were expected, but unfortunately, schools were still unable to pivot their learning strategies to prioritize the needs of these

students even after months of planning over the summer of 2020 (Morando-Rhim and Ekin 2021).

Although educational backslides were expected for all students, including those with disabilities, less research directly examined the risks and outcomes in related dimensions. An important contribution of this study is in the breadth of outcomes that were examined in relation to pandemic school closures. For students with disabilities, not only were they impacted academically, but they were also vulnerable to negative physical, psychological, and socio-emotional outcomes.

Past research on children with disabilities identified academic, physical, and psychological vulnerabilities during disaster (Peek and Stough 2010). This study contributes to this literature by identifying how an inverted disaster exacerbated barriers to education and poor outcomes in these areas. In addition, this study highlights the significance of socio-emotional development for children with disabilities and the impacts school closures during the inverted disaster had on this population. This key area of development was significantly impacted for children with disabilities who were excluded from the general education classroom and fell behind their peers academically and socially during school closures. Socio-emotional learning must be considered when assessing plans for educational access during a typical or inverted disaster.

Research Question 2b) What specific challenges did parents face?

Third, this research found that a return to traditional gender roles became the norm for the families interviewed in this study. This is consistent with previous literature that found

similar patterns of familial gender roles during disasters. Mothers traditionally take on the burden of childcare during these events and these experiences increase hardship for women (Enarson et al. 1998, 2007; Fothergill 1999, 2012). Similar patterns were discovered in studies of gender roles during the pandemic. Women took on more of the household and caregiving responsibilities, while also working from home (Collins, Landivar, et al. 2021; Madgavkar et al. 2021; Petts et al. 2021). This study found that these caregiving patterns continued to underlie familial relationships during the COVID-19 pandemic. While these reproductive roles of the 'second shift' remain undervalued, women bear the burden, while men's work was prioritized.

In addition to mothers taking on the primary caregiving role during school closures, they also experienced role conflict as they struggled with maintaining their roles as parents, but also as teachers, special educators, counselors, physical, occupational, and speech therapists, and as social peers. While this phenomenon has been noted in previous literature on disasters (Fothergill 2012), the degree to which role conflict was ubiquitous may be unique to the pandemic and inverted disaster experience. In this case, mothers explicitly took on the teacher role, as schools were closed indefinitely, and in cases of children with disabilities, educational, therapeutic, medical, and social roles were demanded as well. For these children, role and status changes were difficult to understand and accept. Parents were challenged by the added expectations of each new role and many parents indicated that these challenges increased interpersonal conflict inside the home.

This study uncovered a unique aspect of the pandemic as an inverted disaster. In addition to adjusting to new roles within the home, as families were socially isolated and physically emplaced in their home spaces, strain was also increased on the home itself, as a

place for living, learning, working, and playing. The home was not only a place to quarantine, but also a space for maintaining the expectations of work and school. The changes to the role of the home and the merging of home, work, and school in one space impacted the meaning of home and influenced the mental health of parents and their children, and increased strain on identity and relationships (Devine-Wright et al. 2020; Gezici Yalçın and Düzen 2022; McNeilly and Reece 2020). While this experience may be unique to the pandemic, it may become more common as climate related disasters and public health crises increase. As these inverted disasters become more likely in the future, the way we respond and enforce social isolation within the home must be evaluated.

Research Question 2c) How did these challenges impact the mental health of parents?

Fourth, many parents in this study suffered a decrease in mental health due to social isolation, role conflict, and increased stress and strain as they tried to meet the new demands of pandemic life without the support of their in-person social networks. In the case of the inverted disaster, parents and their children experienced hardship, while also being cut off from the in-person support of friends, family, teachers, counselors, and other helping professionals. Past research would lead us to expect these findings during a disaster, however, the added isolation, uncertainty, stress of at-home schooling, and lack of support during the inverted disaster were added risk factors (Esterwood and Saeed 2020; Greco and Roger 2003; Grupe and Nitschke 2013; Massazza et al. 2023; Prime et al. 2020; Rettie and Daniels 2021).

A key finding of this study was that parents with disabled children were under a disproportionate amount of mental health strain than their peers. These parents reported

greater average stress, worry, and lower wellbeing. Interview data identified that the cause of this difference was related to the added pressures of educating their disabled child, ensuring their well-rounded development, enacting more roles, and experiencing more role strain, and in many cases, feeling as though they were failing. These findings are corroborated by the research on this population (Cheng et al. 2022; Greer and Pierce 2021; Jesus et al. 2021).

Research Question 2d) What other factors were related to mental health outcomes for parents?

Along with parents of disabled children, other demographic factors influenced aspects of mental health. The intersectionality of disability with partner status, income, race, and work led to increased disadvantages for these parents. Single parents reported lower levels of wellbeing than their peers as they took on new and unfamiliar parenting roles during school closures without the support of a partner. Parents in low-income households experienced greater impacts on wellbeing, worry, and overall strain. These parents were financially strained and lacked resources for educating their children at home. Their economically precarious standing also increased strain on their roles, housing and space, and access to basic needs.

Non-white parents with disabled children reported greater stress and lower wellbeing than their peers. Parents working from home also reported lower wellbeing and greater mental health strain overall than their peers who worked outside of the home. These parents were doubly disadvantaged by the burden of work-from-home while also taking on the roles of providing education to their children with disabilities. I also found that parents with smaller,

less diverse, and more fragmented social networks, experienced more strain than their peers in the sample. I will discuss this further in the following section.

The third objective of this study is to analyze how families utilized their social networks to increase resilience during the pandemic.

Research Question 3) How did parents mitigate the impacts of school closures during the pandemic, despite the unique challenges posed by the disaster?

Research Question 3a) How did parents access their social networks?

Fifth, this study found that parents attempted to alleviate the negative impacts of the pandemic, by maintaining supportive networks either through virtual space, or by developing new in-person support systems to share resources and services. For many parents, their social connections made their way to online forms of connection. This allowed them to maintain those relationships and receive emotional support from friends and family. Due to the inverted nature of the disaster, families were unable to rely on their traditional in-person networks as a source of instrumental support and resource sharing. These strategies are common for mitigating risk during a disaster (Aldrich 2012; Casagrande et al. 2015; Sadri et al. 2018). Due to the inverted and isolating nature of the pandemic, parents were unable to rely on these in-person networks. Instead, they formed new support networks in the form of pandemic bubbles and pods to meet their coping and recovery needs. While past research would suggest that families would find ways to engage their social capital during a pandemic, the ways in which they did so was unique to the socially isolating nature of the inverted disaster.

Research Question 3b) What forms of social capital were shared?

Within these new, and old, support networks, parents found new ways to share information, money and material resources, instrumental support, and socio-emotional support. The types of support shared were dependent on the network's characteristics and function. For example, traditional networks that transitioned into virtual space provided socio-emotional support, information, and financial resources. In-person pandemic bubbles and pods allowed members to meet and share resources, provide instrumental support, and social support. For parents who participated in learning pods, a key form of instrumental support was sharing the burden of the educator role for their children. This provided parents with some relief from the burdens of pandemic school closures and allowed them to share responsibilities of continued education with other parents. While parents were emplaced in their homes, socially isolated, and without their typical support systems, they were resilient, by finding new forms of connection to meet their needs.

Pandemic bubbles and learning pods were an effective strategy for parents coping with life during the inverted disaster, however, it must be noted that not all parents were able to access these forms of support. Parents with disabled children were less likely to access learning pods, placing them at a greater disadvantage in educating their children on their own. This also added to the exclusion of children with disabilities from their peers. It was also more difficult for lower income or single parents to participate, as they lacked the time or space to accommodate the needs of a learning pod. While already a more vulnerable population, these factors exacerbated their struggles.

Research Question 3c) How did social network characteristics impact the mental health of parents?

This study contributes a significant finding to the literature on social networks, mental health, and disasters. Results from social network analysis found that social network strength was a key factor in parents' mental health during the pandemic. While parents with disabled children fared worse mental health outcomes than their peers, parents without a strong support network, were negatively impacted to an even greater degree. These parents had smaller, less dense, less diverse, and more fragmented networks. Without a strong support network, these parents experienced more stress, worry, and lower wellbeing as they struggled with the expectations, pressures, and isolation that the pandemic and school closures created. Parents with stronger networks (i.e. larger, denser, diverse, and cohesive), were better able to mitigate mental health outcomes. Not only is this important for their own sake, but a parent's mental health directly impacts a child with a disability, along with other members of the family.

The inverted nature of the COVID-19 pandemic created a unique situation in which the unbounded and invisible threat of the virus led to the closure of public spaces, including schools, yet learning and working were expected to continue as families were socially isolated in their homes. Parents of children with disabilities were especially at risk as their children faced structural barriers to educational and therapeutic services and they were cut off from institutional and social support systems. Under these conditions, parents formed resilient strategies of social connection with other parents to share emotional and instrumental support. Parents with access to strong networks mitigated their risks to poor mental health outcomes during the inverted disaster.

## Implications for Practice

In this section, I will discuss the implications of the study's findings, in relation to practice. Study findings highlight the need for protective practices in education that prioritize continuity of educational access for children with disabilities, and for social welfare and community building policies to better support families most at risk during disastrous events and school closures. The mechanisms explored provide keys to how educational, family welfare, and disaster management policies for students with disabilities can be improved.

### For Education During a Pandemic:

1. Schools and school districts must design specific plans for continued education during inverted disasters (i.e. climate change, pandemics) based on the existing data for best practices and resources must be made available to plan, prepare, react, and recover.
2. School plans for disasters need to include students with disabilities and their families and ensure that learning and services are accessible for this population. These students should be prioritized, as they are most at risk of learning loss. This may mean enacting exceptions for in-person learning to benefit children with disabilities during a disaster.
3. Students with disabilities cannot be excluded from their peers in general education classes or special subjects, such as art or physical education. Exclusion from these settings poses a threat to a child's social development and their mental health.
4. Appropriate modifications and services must be implemented to reduce disruption to educational and developmental growth for children with disabilities.
5. Therapeutic services, including but not limited to speech therapy, occupational therapy, and physical therapy need to be continued as stated in a student's IEP. Funding for

home-based interventions is recommended for therapy to increase effectiveness of interventions.

6. Mental health services need to prioritize students with disabilities. Students already working with a mental health professional prior to disaster need to be provided access to these services during and after disaster to aid in their resilience and mental health.
7. Medical interventions that are required in a student's IHP need to be included in disaster and continued education plans for schools. Exceptions must be made for these interventions to ensure students have access to education and services during all types of disasters, including pandemics.
8. Plans need to be implemented for all phases of learning during a disaster, including at-home, virtual, hybrid, and return to in-person. Recovery plans need to also prioritize students with disabilities and include adjustments to services that can be implemented immediately at each phase of learning. For example, increased direct service minutes for instruction.
9. Plans for returning to in-person schooling need to also address the socio-emotional element and emphasize social belonging, community building, social skills, and mental health for students with disabilities.

For Increasing Educational Equity:

10. Accommodations and modifications that increased equity for students with disabilities needs to be implemented going forward. For example, allowing students with dyslexia to utilize speech-to-text software in the classroom, or providing virtual forms of

communication to students with autism, can increase access to learning, not just during disasters, but as part of the normal state of special education.

11. Virtual forms of education should be offered to students with health disabilities or other needs related to their disabilities that create barriers to attendance in school. Providing more inclusive forms of education to these students would allow them access to learning and reduce the burden on students and their parents.

For Family Support:

12. Schools and school districts need to implement policies to increase community building among families in their schools. When implementing programs to improve community, special consideration must go into inclusive practices for students with disabilities and their families, among other at-risk families. Programs must emphasize strategies for building social support networks among families, as well as with school and community services.
13. Social welfare policies that reduce vulnerability of families are recommended to increase resilience and build stronger communities. These may include policies to reduce poverty and hunger and improve access to jobs and affordable housing. These policies would improve outcomes for families and build resilience in case of disaster.
14. Institutions of support must ensure that their services will continue to be accessible during all types of disaster.
15. Mental health services must be prepared to continue services during all types of disaster. Funding for continued services needs to be provided to prepare for disaster.

## Limitations

This study followed a mixed methods approach, using both qualitative and quantitative methods to capture robust data and triangulate findings. Social survey data provided a summary of what occurred during school closures for the families that participated. It also provided a quantitative assessment of perceived parental mental health during the pandemic and a comparison between parents of different demographic groups. However, this was only an overview of what truly transpired. Qualitative interviews gave participants the opportunity to share their experiences on a deeper level. Using social network analysis added a visual of parents' social support networks, which was triangulated with interview data and compared with mental health scores collected during the survey. Combining these forms of data collection enabled me to capture a well-rounded view of experiences with at-home learning during the pandemic, the impacts on children with disabilities and their parents, and how these factors influenced their reliance on social networks and their ability to respond and recover.

While this study obtained thorough data on the participants and their experiences, there were limitations in the research study design. First, this study collected survey data from 125 parents of kindergarten through 8<sup>th</sup> grade students, 39 of which also took part in interviews, and 29 completed the social network survey. Participants were recruited through posted flyers, online recruitment, and snowball sampling. The choice of recruitment strategies introduced bias in the sample, in terms of who had access to recruitment materials and with self-selection into the study. Parents who chose to participate may have had more difficult experiences during the pandemic, consider themselves advocates for children with disabilities,

or were educators themselves. Self-selection bias could also affect parents' willingness to share their stories.

The survey sample for the study is relatively small and nonrepresentative. Approximately one third of the survey sample came from Northern Colorado, one third from West Texas, and one third from elsewhere in the United States. These locations were present in the demographics due to online recruitment and snowball sampling. Early participants in the interviews were more likely to be white, middle- or upper-middle class, and liberal. As the demographics shifted in this direction, I strategized my recruitment tactics to include more diverse participants by recruiting through services in racial minority and low-income neighborhoods. These tactics increased the diversity of those interviewed; however, the overall study is not representative.

Participants were required to have a child in kindergarten through 8<sup>th</sup> grade and live in the United States. Findings cannot be generalized outside of these demographics. School districts and schools around the country pulled from a variety of strategies during the pandemic. Because participants for the survey were located in various districts, generalizations to parents living in other school districts or parts of the country also cannot be made. Although all interview participants lived in Northern Colorado, they too had children registered in various school districts across the region.

While the survey sample is not random or representative, the interview and social network survey subsamples do reflect the racial and socioeconomic diversity of the region, and a diversity of COVID-19 experiences with school, work, and family structures. But it should be noted that of the 39 parents in Northern Colorado who participated in interviews, these

families also had varying experiences depending on city, school district, or even the school their child attended. Many families also had children in multiple schools. However, one thing was clear throughout the data collected. Parents who had a child with a disability reported worse conditions, greater barriers to education and services, and more struggles with mental health than did their peers. This cut across households, schools, districts, and states.

As this study focused on children with disabilities, this demographic was oversampled. Half of the parents surveyed had this experience in common. Again, however, there is a diversity in terms of types of disabilities represented, number of children in the home, type of school attended (public, charter, private, homeschool, pandemic pod), the forms of learning experienced during school closures, and the forms of services children received. While this study does not meet the quantitative threshold of generalizability, I captured those detailed experiences of parents and an understanding of the processes of education, work, and family life, as well as their struggles with mental health and maintaining social connections.

My research questioned the educational experiences and outcomes of children with disabilities from the perspective of parents. This perspective introduced bias in the results as they pertain to what the students were experiencing themselves. It would be enlightening to also have the perspective from the standpoint of students as well as educators. Fortunately, I interviewed 12 parents who also worked as educators, some as teachers, paras, special education teachers, or administrators. This provided me with additional insight into the role of educators behind the zoom camera and their observations of students during at-home learning and throughout the return to in-person learning. Unfortunately, I was unable to capture the

perspectives from the point of view of the children. This is a future research area that needs further exploration.

Data collection occurred between fall 2020 and spring 2023. One potential source of bias this creates is recall error as parents may have forgotten pivotal experiences or were unable to accurately report their mental health during school closures. Parents shared their perspective of that time period after the fact, allowing time for them to consider their experiences in light of new events. This may cloud some of those experiences reported. However, this is also a strength of the research methodology. Because data collection occurred over the first two years of the pandemic, I was able to capture experiences across multiple timepoints and pandemic waves. These changes over time highlight the uncertainty and unpredictability of the pandemic, school closures and learning modalities, and the ability for students with disabilities and their families to adjust to these changes.

There is also known potential for recall bias when reporting on your social network. Participants may fail to recall who helped them during the pandemic or what forms of support they received. Social network data is often more about perception than fact. However, that perception may be more important in determining the effects on parents. Unfortunately, these limitations regarding the time frame of the study cannot be corrected.

Data collection spanned the pandemic period of school closures, virtual and hybrid education, and the transition back to in-person learning. Only the immediate and short-term impacts of these changes were observed and analyzed. Of course, the impacts of these changes may continue to impact students over time. It will be important to further study the ongoing and long-term impacts of school closures on children with disabilities.

Finally, due to the study occurring during the COVID-19 pandemic, capturing data took place online. Interviews and social network surveys were conducted through Zoom and surveys were completed online through Qualtrics. These methods were due to lockdown orders and to prevent stress and in-person contact. While robust data was collected, the online data collection strategies could limit some participants from sharing. It also may have created barriers to some participants joining the study who do not have reliable internet access. Future studies could account for these limitations by recruiting a more representative sample and using in-person methods of data collection.

### **Recommendations for Research**

In reference to the limitations discussed above, future research is recommended to address these issues. Additional research should address the representativeness of the study sample, utilize comparative research methods, examine long term impacts on children and parents, collect data from the perspective of children, and evaluate the effectiveness of intervention strategies. Research to further delineate the concept of the inverted disaster and its applications is also suggested.

First, as the sample for this study was relatively small, it is recommended that future studies be conducted using a larger, representative sample of students with disabilities and their parents. By engaging with a larger sample, analysis may reveal statistically significant relationships between mental health and educational outcomes with school closure experiences. Although there appeared to be a relationship between parent demographics and mental health, a larger sample would allow for those correlations to be more accurately assessed.

Second, this study was broad in its definition of 'student with a disability'. Each type of disability manifests in very specific ways and presents unique strengths and challenges. There was also a wide variety of learning modalities and types of schools under study. It would be prudent to conduct a more focused study comparing learning modalities and their positive or negative impacts on specific groups of students. For example, as children with autism were particularly impacted by the rupture of their school/life routines, it would be useful to conduct a study focused on this population. One could then compare students with autism who experienced different school closure learning modalities or differences in accommodations and modifications received. The same could be true for other disability types. Understanding these experiences and outcomes relevant to disability would be an important step to designing proper strategies for increased educational access and planning for future disasters.

Third, continued research on children with disabilities as a socially vulnerable population is needed during the pandemic to understand the impacts of school closures on these students and their families. By understanding these impacts, new ways to reduce vulnerability and educational inequities and limit stress and psychological harm on these children and their caregivers is discovered. This study focused on short-term impacts and at this point, we can only speculate what the future impacts will be on this population. Future research should continue to examine the long-term impacts on children and their families. Not only should educational, physical, and psychological impacts be studied, but special attention should be paid to how school closures impact the socio-emotional development of students with disabilities. Additionally, the influence of social network strength on long-term recovery from the pandemic should be measured and evaluated.

Fourth, research collected with the participation of children with disabilities is recommended. This study examined the experiences and impacts of school closures on children, from the perspective of their parents and caregivers, and in some cases, teachers. However, this does not account for the lived experience from the child's perspective. This is a key data point that is missing from the analysis. Interviews with students and direct observation could improve the validity of the research findings.

Fifth, ultimately, this research aims to increase educational equity for children with disabilities during disaster. While this study can suggest changes to policy and practice, as outlined previously, evaluation research is needed to assess the effectiveness of new interventions. I recommend that strategies for accommodating students with disabilities under various learning modalities be tested for their effectiveness and in terms of their impacts, not only academically, but for unexpected effects on physical, psychological, or socio-emotional development. This research must expand beyond the context of disasters and examine how pandemic-era educational strategies may benefit students with disabilities and provide access to learning during a typical school year.

Along the same lines, evaluative research will need to be conducted on newly implemented policies aimed at reducing strain on parents, building resilient social networks and communities, increasing support for families and children with disabilities, and other disaster planning, educational, or social support strategies. For example, programs designed to increase social connections within a community may have impacts that go beyond the day to day. These policies will need to show their effectiveness at increasing resilience during a disaster.

Finally, future research is recommended to further delineate the characteristics of the inverted disaster and categorize past or future events within this expanded framework. Refining the inverted disaster concept and recategorizing disasters using this model will provide a tool for researchers to understand the effects and outcomes of inverted disasters on vulnerable populations. It will also give practitioners a way to categorize future events and pivot towards appropriate planning and response strategies. Inclusion of this disaster type will have serious implications for federal funding and for disaster planning, response, and recovery. These changes and their impacts will need to be evaluated.

## **Conclusion**

This research examined the impacts of COVID-19 and school closures on K-8 grade students with disabilities. The pandemic was a unique disaster in that it impacted everyone and most aspects of our lives and our communities. Countless studies explore the causes of the pandemic, factors of pandemic life, the short- and long-term impacts on people, workplaces, politics, health, and the economy, just to name a few subjects of study. Many studies also explore students and schools. Amid all this research, as this study comes to a close, what are the key takeaways and why do they matter?

This research focuses on a population that is often ignored. As children across schools in the United States were provided new modalities for learning during school closures, and access to continued learning was promoted, in many cases those with disabilities were excluded and barriers to education increased. These are the students who are most vulnerable and require special educational services and accommodations to bolster their success. These are the students who struggle the most with changes in their environment and gaps in learning. Yet,

they are often not the priority, whether in research, disaster planning, or educational policy. This research was necessary to fill this gap in the pandemic and disaster research on social vulnerability, educational equity, and disabilities.

In surveys and interviews, parents and caregivers shared the challenges their children experienced during the pandemic, the ways they fell behind their peers due to exclusion from education, and the ways this impacted them, not only academically, but physically, psychologically, and socio-emotionally. These stories are part of the pandemic experience. They deserve to be heard and applied to positive changes in educational policy, family support services, disaster planning, and emergency management.

Parents also shared the impacts that school closures and the pressures of pandemic life had on their own mental health. Parents with disabled children were at greater risk of experiencing increased stress, worry, and decreased wellbeing. In addition to disability being a factor in mental health, a correlation also existed in the strength of parents' social support networks during the pandemic and their ability to transition to new forms of social connection. This evidence suggests the importance of networks in disaster resilience for families, especially for those with disabled children. These families are often overlooked, but their success is vital, for their own outcomes, but also for the greater community. This research highlights their needs and how they can be better served in the future.

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APPENDIX A

ADDITIONAL DATA TABLES

Table A.1. Percentage of Parents with High Stress Indicators by Parent Demographics

<b>How often did you feel...</b>	<b>Single parent n=22</b>	<b>Dual parent n=88</b>	<b>Low income n=25</b>	<b>High income n=80</b>	<b>Work home n=53</b>	<b>Work away n=32</b>	<b>Non- white n=23</b>	<b>White n=86</b>
upset because of something that happened unexpectedly	59.09*	33.75	66.67**	32.89	42.86	40.74	54.55	35.00
unable to control the important things in my life	54.55	51.85	71.43	49.35	48.98	60.71	59.09	50.62
nervous or stressed	54.55	66.67	80.95	61.04	63.27	65.29	63.64	64.20
confident about my ability to handle personal problems	13.64	16.25	28.57	11.84	6.12	18.52	18.18	15.00
that things were going my way	40.91	41.98	42.86	41.56	42.86	35.71	36.36	43.21
could not cope with all the things that I had to do	36.36	28.40	19.05	32.47	26.53	39.29	22.73	32.10
unable to control irritations in my life	5.88	18.63	9.28	16.49	16.67	6.41	6.86	17.65
on top of things	50.00	45.68	52.38	45.45	46.94	35.71	27.27	51.85
angry because of things that happened outside my control	36.36	36.25	42.86	35.53	42.86	25.93	50.00	32.50
difficulties piling up so high I could not overcome them	31.82	17.50	47.62***	14.47	22.45	18.52	31.82	17.50

\*p < .05; \*\*p < .01; \*\*\*p < .001

Table A.2. Percentage of Parents with Low Wellbeing Indicators by Parent Demographics

<b>How often did you NOT feel...</b>	<b>Single parent</b> n=22	<b>Dual parent</b> n=88	<b>Low income</b> n=25	<b>High income</b> n=80	<b>Work home</b> n=53	<b>Work away</b> n=32	<b>Non-white</b> n=23	<b>White</b> n=86
optimistic about the future	22.73	27.16	23.81	24.68	28.57	10.71	22.73	27.16
useful	22.27	13.92	19.05	12.00	10.42	14.29	13.64	16.46
relaxed	66.67	59.26	76.19	57.14	69.39	46.43	54.55	62.50
interested in other people	42.86	32.10	57.14*	28.57	34.69	25.00	33.33	34.57
had energy to spare	68.18	56.25	75.00	54.55	65.31	46.43	59.09	58.75
dealing with problems well	18.18	25.93	28.57	23.38	20.41	17.86	18.18	25.93
thinking clearly	18.18	27.16	39.10	22.08	24.49	14.29	18.18	27.16
good about myself	31.82	30.86	33.33	29.87	28.57	21.43	22.73	33.33
close to other people	45.45	39.51	47.62	38.96	40.82	32.14	18.18**	46.91
confident	27.27	29.63	42.86	24.68	28.57	21.43	27.27	29.63
able to make up my own mind	27.27	20.99	23.81	20.78	20.41	14.29	13.64	24.69
loved	9.09	7.41	14.29	5.19	6.12	7.14	9.09	7.41
interested in new things	31.82	38.27	28.57	38.96	34.69	35.71	31.82	38.27
cheerful	27.27	17.28	23.81	16.88	22.45	7.14	22.73	18.52

\*p < .05; \*\*p < .01; \*\*\*p < .001

Table A.3. Percentage of Parents with High Worry Indicators by Parent Demographics

<b>How often did you feel...</b>	<b>Single parent</b> n=22	<b>Dual parent</b> n=88	<b>Low income</b> n=25	<b>High income</b> n=80	<b>Work home</b> n=53	<b>Work away</b> n=32	<b>Non-white</b> n=23	<b>White</b> n=86
children's education	81.82	63.75	71.43	67.11	69.39	62.96	77.27	65.00
health issues	36.36*	65.43	76.19	57.14	53.06	64.29	59.09	59.26
finances	59.09	44.44	90.48***	37.66	46.94	35.71	59.09	44.44
safety	36.36	50.62	61.90	45.45	48.98	35.71	54.55	45.68
children's mental health	77.27	67.90	71.43	70.13	77.55	57.14**	77.27	67.90
my own mental health	45.45	55.56	61.90	53.25	53.06	42.86	63.64	50.62

\*p < .05; \*\*p < .01; \*\*\*p < .001

Table A.4. Percentage of Parents with Poor Mental Health by Network Statistics

		<b>high stress</b>	<b>low stress</b>	<b>low wellbeing</b>	<b>high wellbeing</b>	<b>high worry</b>	<b>low worry</b>	<b>high strain</b>	<b>low strain</b>
<b>Size</b>	High	13.33	86.67	13.33	86.67	20.00	80.00	0.00	100.00
	Low	21.43	78.57	42.86	57.14	64.29	35.71	28.57	71.43
<b>Role Diversity</b>	High	20.00	80.00	20.00	80.00	26.67	73.33	6.67	93.33
	Low	14.29	85.71	35.71	64.29	57.14	42.86	21.43	78.57
<b>Support Types</b>	High	21.05	78.95	26.32	73.68	42.11	57.89	10.53	89.47
	Low	10.00	90.00	30.00	70.00	40.00	60.00	20.00	80.00
<b>Total Supports</b>	High	11.11	88.89	22.22	77.78	11.11	88.89	0.00	100.00
	Low	20.00	80.00	30.00	70.00	55.00	45.00	20.00	80.00
<b>Density</b>	High	18.75	81.25	31.25	68.75	50.00	50.00	25.00	75.00
	Low	15.38	84.62	23.08	76.92	30.77	69.23	0.00	100.00
<b>Mean Degree</b>	High	13.33	86.67	20.00	80.00	40.00	60.00	13.33	86.67
	Low	21.43	78.57	35.71	64.29	42.86	57.14	14.29	85.71
<b>Betweenness</b>	High	14.29	85.71	21.43	78.57	28.57	71.43	0.00	100.00
	Low	20.00	80.00	33.33	66.67	53.33	46.67	26.67	73.33
<b>Centrality</b>	High	15.00	85.00	20.00	80.00	35.00	65.00	5.00	95.00
	Low	22.22	77.78	44.44	55.56	55.56	44.44	33.33	66.67
<b>Closed Triads</b>	High	14.29	85.71	14.29	85.71	28.57	71.43	0.00	100.00
	Low	18.18	81.82	31.82	68.18	45.45	54.55	18.18	81.82

## APPENDIX B

### INTERVIEW GUIDE AND SURVEY PROTOCOLS

Educational Experiences and Outcomes for Students and Families During COVID-19

Interview Guide – Parents

Shawna Bendeck

#### Face Sheet:

#### Title:

Educational Experiences and Outcomes for Students and Families During COVID-19

#### Topic Description:

The focus of this study is to understand the differences in how K-12 education is being delivered to students during shelter-in-place orders and school building closures. To understand these differences, the study will draw on the experiences of parents using in-depth interviews. Interviews with parents will examine expectations set by schools, changes in parental responsibilities, experiences with home learning, challenges with home learning, and strategies for coping with these changes. An emphasis will be placed on children with special educational needs.

The following questions will be addressed:

- 1) How are schools delivering K-12 education during COVID-19?
- 2) How have expectations of learning changed for students?
- 3) What are schools expecting of parents during COVID-19?
- 4) How is family life affected by changes in K-12 education during COVID-19?
- 5) What are the educational experiences of parents and their children during COVID-19?
- 6) How do experiences differ for parents of children with special educational needs?

#### Interview Instructions:

The following interview guide contains 6 sections. The first four sections address the time frames prior to March 2020, Spring 2020, Summer 2020, and the 20/21 school year. The open-ended questions should be asked of the respondent. Following each question, a list of probing questions is included to be used as needed during the interview. The last 2 sets of questions are for closing the survey and a demographic section. Ask these as needed.

## Interview Guide:

### A. Background:

Tell me about yourself and your family.

- a. What age is/are your child(ren) and what school grades are they in?
- b. Type of school (public, charter, private, virtual, homeschool, etc.)?
- c. Do you/partner work? At home? Outside the home?
- d. Do your children receive special education services at school? If so, what type of services did they receive and how frequently?

### B. COVID Spring Experiences:

Tell me what it was like for your family in the Spring of 2020.

- a. Educational Delivery: How did education change for your child?
  - Contact/Delivery/Tech Needs
  - Is your child receiving more/less/same education as before?
  - Is your child continuing to receive special education services?
  - Do you feel confident in the education your child is receiving?
  - Were your child's needs being met?
- b. Expectations: What were the school's/teacher's expectations of you and child?
  - Amount/Communication/Repercussions/Conflicts
  - Were they appropriate? Were you meeting them?
- c. Family Life Changes: How did family life change during the spring?
  - How did you and child adjust to these changes?
  - Did your child enjoy learning? Were they learning as much?
- d. Decision Making
  - Did you consider other schooling options? Why or why not?
- e. Challenges: What challenges did your family face?
  - How are you balancing work/school/family? Schedule?
  - How did your family adapt or cope with these changes?
  - How confident are you in dealing with these challenges?
- f. Support: What type of support did you receive? And from whom?
  - From schools? From family? From friends? Etc.
  - Are you helping others?
  - What resources did you use to educate your child?
  - Did you have essential and educational supplies?

### C. Closing Questions

- a. Are there any final thoughts you would like to share that we haven't covered?
- b. Are there any questions I did not ask that you think may be important to ask?

Educational Experiences and Outcomes for Students and Families During COVID-19  
Social Network Survey: Resource Generator  
Shawna Bendeck

Qualifying Questions:

- Are you a parent of a school-age child? (SKIP BLOCK IF NO)
  - Yes
  - No
- How many school age children do you have?
  - 1
  - 2
  - 3
  - 4
  - 5 or more
- What grades are your children currently in (2021-2022 school year)? (CHOOSE ALL THAT APPLY)
  - Pre-Kindergarten
  - Kindergarten
  - 1<sup>st</sup> grade
  - 2<sup>nd</sup> grade
  - 3<sup>rd</sup> grade
  - 4<sup>th</sup> grade
  - 5<sup>th</sup> grade
  - 6<sup>th</sup> grade
  - 7<sup>th</sup> grade
  - 8<sup>th</sup> grade
  - 9<sup>th</sup> grade
  - 10<sup>th</sup> grade
  - 11<sup>th</sup> grade
  - 12<sup>th</sup> grade
- What is your relationship to your children?
  - Parent
  - Foster parent
  - Other relative
  - Legal guardian
- Do any of your children have an Individualized Education Plan (IEP), 504 plan, READ plan, other special education plan, or receive special education services?
  - Yes
  - No
- (IF YES): Which services does your child/children receive from their school: CHOOSE ALL THAT APPLY
  - Speech therapy
  - Occupational therapy

- Physical therapy
- Medical Interventions
- Other therapies or services
- (IF YES): Please briefly describe your child's special education needs (OPEN)
- (IF YES): During the pandemic, did your child consistently receive the educational accommodations and services as required by their IEP, 504, READ plan or other educational plan?
  - Yes
  - No
- (IF YES): Did your child meet their educational goals during the pandemic?
  - Yes
  - No
- Did your child's educational progress increase or decrease during the pandemic?
  - Progress increased
  - Progress stayed about the same
  - Progress decreased
- Does your child/children receive free/reduced lunch at school?
  - Yes
  - No
- What type of school did your child attend before the pandemic?
  - Public school
  - Private school
  - Charter school
  - Other
- Did your child's school building shut down at any time during the COVID-19 pandemic?
  - Yes
  - No
- D. What types of learning has your child experienced during the pandemic? (CHOOSE ALL THAT APPLY)
  - a. Attending school in person
  - b. Attending school through virtual learning
  - c. Attending school in a hybrid format (mix of in person and virtual)
  - d. Homeschooling
  - e. Attending an educational pod
  - f. Other
- E. What is the name of your school district?
  - a. Open

The COVID-19 pandemic started affecting life in the United States in March of 2020. During this time, many states and local governments created lockdown orders, stay-at-home orders or safer-at-home guidelines. The next set of questions will ask you to think about various ways that you may have received help from others or ways that you may have helped others during the spring of 2020. Below is a list of ways you may have helped someone or someone may have helped you. Consider this list as you answer the following questions.

- Tangible Items: household goods (such as toilet paper), educational supplies, office equipment, medical supplies (face masks, hand sanitizer, etc.), recreational supplies, and other items
- Financial Assistance: cash, help paying bills, and other forms of financial support
- Intangible Support: transportation, childcare, help with schooling
- Providing Information: regarding COVID-19, resources, support, job opportunities
- Social Support: through video chat, phone calls or texts, or other forms of social support

Resource Generator:

Think about the kinds of help you needed during the pandemic (tangible, financial, intangible, information, social support).

Please list the first name and last initial of up to 5 people **who helped you the most** during the COVID-19 pandemic (March 2020 through June 2021).

Q10: What is your relationship to the people you listed? Please choose all that apply.

- Roommate
- Immediate Family
- Other Relative
- Friend
- Neighbor
- Child's school teacher or other school staff
- Other parent from child's school
- Co-Worker
- Someone you know online
- A local organization
- Other Acquaintance

Think about the people you helped during the pandemic.

Please list the first name and last initial of up to 5 people **whom you helped the most** during the COVID-19 pandemic (March 2020 through June 2021). **Do not include anyone that you previously listed in the last question.**

Q10: What is your relationship the people you listed? Please choose all that apply.

- Roommate
- Immediate Family

- Other Relative
- Friend
- Neighbor
- Child's school teacher or other school staff
- Other parent from child's school
- Co-Worker
- Someone you know online
- A local organization
- Other Acquaintance

Q11: Here is a list of resources you may have received help with. Please mark any resources that <person 1> helped you with during the COVID-19 pandemic.

RESOURCE LIST

Q12: Here is a list of resources you may have helped others with during COVID-19. Please mark any resources that you helped <person 1> with during the COVID-19 pandemic.

RESOURCE LIST

REPEAT BLOCK FOR PERSONS 2-10

QUESTIONS ABOUT ALTERS:

Please answer a few more questions about the people you have mentioned.

- What is <alter's> gender?
  - Female
  - Male
  - Other
- What is <alter's> age?
  - Less than 30 years old
  - 30-44 years old
  - 45-59 years old
  - 60+ years old
- What is <alter's> employment status?
  - Employed full-time
  - Employed part-time
  - Self-employed
  - Unemployed
  - Student
  - Retired
  - Don't know
- Does <alter> have school children?
  - Yes
  - No
  - Don't know

- Are <alter's> children close in age to your own children?
  - Yes
  - No
  - Don't know
- How long have you known <alter> (in years)?
  - Less than a year
  - 1-2 years
  - 3-4 years
  - 5 or more years
- How far do you live away from <alter> (in minutes)?
  - Less than 15 minutes
  - 15-29 minutes
  - 30-59 minutes
  - 1-2 hours
  - 3 hours or more

QUESTIONS ABOUT ALTER-ALTER RELATIONSHIPS:

- Does <alter> have a relationship (friends, family, neighbors, etc.) with the following people (ASK FOR EACH GROUP OF ALTERS)
  - List other alters

Q45: On a scale from 1 to 5, with 1 being never and 5 being very often, thinking about the time period during the pandemic and educating your child at home, how often did you feel the following?

- I was upset because of something that happened unexpectedly
- I felt you were unable to control the important things in my life
- I felt nervous or stressed
- I felt confident about my ability to handle my personal problems
- I felt that things were going my way
- I could not cope with all the things that I had to do
- I felt unable to control irritations in my life
- I felt on top of things
- I felt angered because of things that happened that were outside of my control
- I felt difficulties were piling up so high that I could not overcome them

Q46: On a scale from 1 to 5, with 1 being none of the time and 5 being all of the time, thinking about the time period during the pandemic and educating your child at home, how often did you feel the following?

- Optimistic about the future
- Feeling useful
- Feeling relaxed
- Interested in other people

- Have energy to spare
- Dealing with problems well
- Thinking clearly
- Feeling good about myself
- Feeling close to other people
- Feeling confident
- Able to make up my own mind about things
- Feeling loved
- Interested in new things
- Feeling cheerful
- Concerned or worried about my child's education
- Concerned or worried about health issues
- Concerned or worried about finances
- Concerned or worried about safety
- Concerned or worried about the mental health of my child
- Concerned or worried about my own mental health

Q47: In general, I consider myself:

(SCALE FROM 1 to 7; 1: not a very happy person; 7: a very happy person)

Q48: During the COVID-19 pandemic, my happiness has:

Decreased a lot

Decreased somewhat

Stayed about the same

Increased somewhat

Increased a lot

#### QUESTIONS ABOUT EGO:

- F. What gender do you identify with?
  - a. Female
  - b. Male
  - c. Nonbinary
  - d. Other
- G. Are you of Hispanic, Latino, or Spanish origin?
  - a. Yes
  - b. No
- H. How would you describe your race?
  - a. American Indian or Alaskan Native
  - b. Asian
  - c. Black or African American
  - d. Native Hawaiian or Pacific Islander
  - e. White

- f. Other
- I. What is your age?
  - a. 18-24
  - b. 25-34
  - c. 35-44
  - d. 45-54
  - e. 55-64
  - f. 65+
- J. What is your highest level of education?
  - a. Less than high school diploma
  - b. High school diploma or equivalent
  - c. Some college, no degree
  - d. Associate's degree
  - e. Bachelor's degree
  - f. Professional degree
  - g. Doctorate
- K. What is your current marital status?
  - a. Single, never married
  - b. Married
  - c. Cohabiting or domestic partnership
  - d. Widowed
  - e. Divorced
  - f. separated
- L. What is your current employment status?
  - a. Employed full-time
  - b. Employed part-time
  - c. Self-employed
  - d. Unemployed
  - e. Student
  - f. Retired
  - g. Other
- M. Are you currently going into work or are you working from home?
  - a. I work outside the home
  - b. I work from home
- N. What is your current household yearly income?
  - a. Less than \$25,000
  - b. \$25,000 - \$49,999
  - c. \$50,000 - \$74,999
  - d. \$75,000 - \$99,999
  - e. \$100,000 - \$150,000
  - f. Over \$150,000
- O. Did you receive unemployment benefits at any time during the pandemic?
  - a. Yes
  - b. No

- P. Did you lose your housing at any time during the pandemic?
- Yes
  - No
- Q. Are you currently sheltering in-place?
- Yes
  - No
- R. What is your current zip code?

#### CLOSING QUESTIONS:

Thank you for participating in this survey! The survey you just completed is part of a larger study that examines the impacts of educational delivery during COVID-19 on students, families, and educators. The researchers are currently interviewing parents and educators of school age children to understand their experiences. If you would be willing to participate in an interview and share your experiences, please indicate that below.

Would you be interested in participating in an interview?

- No, I do not want to participate in an interview.
- Yes, I would like to participate in an interview.

Thank you for your interest in participating in an interview. Please enter your information below. You may be contacted to discuss the interview process further and set up a time for the interview to take place.

Name:

Email Address:

Phone Number:

#### EDUCATIONAL QUESTIONS:

- How have educational changes during the pandemic (i.e. virtual schooling, hybrid, at-home, etc.) impacted your child's educational or developmental growth? (OPEN)
- How have educational changes during the pandemic (i.e. virtual schooling, hybrid, at-home, etc.) impacted your child's mental health? (OPEN)
- How have educational changes during the pandemic (i.e. virtual schooling, hybrid, at-home, etc.) impacted your child's physical health? (OPEN)
- How have educational changes during the pandemic (i.e. virtual schooling, hybrid, at-home, etc.) impacted your family? (OPEN)

## APPENDIX C

### RECRUITMENT MATERIALS

Educational Experiences and Outcomes for Students, Families, and Educators During COVID-19  
Recruitment Post – Parents  
Shawna Bendeck

Dear Parents,

My name is Shawna Bendeck and I am a doctoral student at Colorado State University in Fort Collins. I am conducting a study on how education has been delivered to students in grades pK-8 during school building closures due to COVID-19. I am interested in how teaching your child from home has impacted their education and your family life. This research will be shared with educators and may help change future school policies.

If your family lives in Larimer or Weld County and has been affected by changes in education during the pandemic and you want your story heard, I would like to invite you to participate in an interview to discuss your experiences. As a thank you for your time, you will receive a \$10.00 Starbucks gift card for completing the interview.

Please click on the link below to schedule a time for your interview. Interviews are approximately 1 hour long and will be scheduled on Zoom to maintain social distancing guidelines.

Your participation is completely voluntary, and the information you provide will remain confidential. If you have any questions or concerns about this research study, please contact me at [shawna.bendeck@colostate.edu](mailto:shawna.bendeck@colostate.edu).

Please click on this link to choose a time for your interview:

<https://calendly.com/sbendeck/interview>

Thank you for your participation!

Sincerely,  
Shawna Bendeck

Educational Experiences and Outcomes for Students, Families, and Educators During COVID-19  
Recruitment Post – Online  
Shawna Bendeck

Hello Parents! I am a doctoral student at CSU and a mother of 3 kids. I am conducting a study on how K-8 education during the pandemic has impacted kids and their families. This research will be shared with educators and may help change future school policies. If you live in Larimer or Weld County and would like to share your story, I would like to invite you to participate in an interview over Zoom. Your participation is voluntary and confidential. As a thank you for your time, you will receive a \$10 gift card to Starbucks. You can schedule a time that is convenient for you using this link: <https://calendly.com/sbendeck/interview>  
If you have any questions, please contact me. Thank you for your help!



## Study on K-8 education during the pandemic and its impacts on students and their families

### REQUEST FOR RESEARCH PARTICIPANTS

**Who is conducting the study and what is it about?**

Researchers from the sociology department at Colorado State University are recruiting participants for a study to understand how education was delivered to children during the pandemic and how changes impacted students and families.

**Who can join this study?**

To participate in this study, you must be a parent of a child in grades K-8 and live in Larimer or Weld County.

**Why should I join this study?**

This research will be shared with K-12 educators and may lead to change in future school policies.

**What will I be asked to do?**

You will be asked to participate in an interview over Zoom. Interviews are approximately 1 hour long. You will receive a \$10 gift card for your time.

**How do I join this study?**

Go to this link to schedule an interview time that is convenient for you:

<https://calendly.com/sbendeck/interview>

OR

You may contact the Study Coordinator/PI or Co-PI directly listed below.

PLEASE CONTACT US FOR MORE INFORMATION	
<b>Shawna Bendeck</b> Study Coordinator/Co-PI <a href="mailto:shawna.bendeck@colostate.edu">shawna.bendeck@colostate.edu</a>	<b>Jeni Cross</b> Professor, Department of Sociology <a href="mailto:jeni.cross@colostate.edu">jeni.cross@colostate.edu</a>

APPENDIX D  
CONSENT FORMS

*Consent to Participate in a Research Study at Colorado State University (Spring 2020)*

**To be read to student PRIOR to turning on recorded portion of virtual interview**

**TITLE OF STUDY: Educational Experiences and Outcomes for Students, Families, and Educators During COVID-19**

**Principal Investigator:** Jennifer E. Cross, PhD, Sociology jeni.cross@colostate.edu, 970-491-0483

**CO-Principal Investigator:** Shawna Bendeck, PhD student, Sociology, 970-690-1306, shawna.bendeck@colostate.edu

**WHY AM I BEING INVITED TO TAKE PART IN THIS RESEARCH?** You have been contacted because you are the parent of a child in grades K-12 or are an educator of grades K-12.

**WHO IS DOING THE STUDY?** The study is being conducted by a PhD student in sociology as part of her dissertation research. Her advisor is Dr. Jeni Cross, Sociology.

**WHAT IS THE PURPOSE OF THIS STUDY?** To understand how K-12 education is being delivered to students during distance learning due to COVID-19 and the effects this has on students, families, and educators.

**WHERE IS THE STUDY GOING TO TAKE PLACE AND HOW LONG WILL IT LAST?** The study is taking place on the CSU campus and is a 1-year study. We plan to interview parents and educators in the summer and fall of 2020.

**WHAT WILL I BE ASKED TO DO?** You will be asked to describe your experiences with K-12 education during COVID-19. Participation in the entire study will take up to 2 hours of your time.

**ARE THERE REASONS WHY I SHOULD NOT TAKE PART IN THIS STUDY?** *You should only take part in this study if you are the parent of a child in grades K-12 or an educator in grades K-12.*

**WHAT ARE THE POSSIBLE RISKS AND DISCOMFORTS?**

- There are no known risks to participation in this study.
- It may be uncomfortable to talk about your experience.

- It is not possible to identify all potential risks in research procedures, but the researcher(s) have taken reasonable safeguards to minimize any known and potential, but unknown, risks.
- **ARE THERE ANY BENEFITS FROM TAKING PART IN THIS STUDY?** There are no specific benefits to participation in the study. The findings from this study will be used to inform CSU and K-12 schools of the challenges faced by families during distance learning.

**DO I HAVE TO TAKE PART IN THE STUDY?** Your participation in this research is voluntary. If you decide to participate in the study, you may withdraw your consent and stop participating at any time without penalty or loss of benefits to which you are otherwise entitled.

**WHO WILL SEE THE INFORMATION THAT I GIVE?** We will keep private all research records that identify you, to the extent allowed by law. For this study, we will assign a code to your data so that the only place your name will appear in our records is on the consent and in our data spreadsheet which links you to your code. Only the research team will have access to the link between you, your code, and your data. The only exceptions to this are if we are asked to share the research files for audit purposes with the CSU Institutional Review Board ethics committee, if necessary. In addition, for funded studies, the CSU financial management team may also request an audit of research expenditures. For financial audits, only the fact that you participated would be shared, not any research data. When we write about the study to share with other researchers, we will write about the combined information we have gathered. You will not be identified in these written materials. We may publish the results of this study; however, we will keep your name and other identifying information private.

**WILL I RECEIVE ANY COMPENSATION FOR THE REMAINDER OF THE STUDY?** You will receive a \$10.00 Starbucks gift card for completing the interview. Gift cards will be mailed to you within one week of completing the interview.

### **WHAT IF I HAVE QUESTIONS?**

Before you decide whether to accept this invitation to take part in the study, please ask any questions that might come to mind now. Later, if you have questions about the study, you can contact the investigator, Dr. Jeni Cross at 970-491-0483. If you have any questions about your rights as a volunteer in this research, contact the IRB Coordinator at: the CSU IRB at: RICRO\_IRB@mail.colostate.edu; 970-491-1553. We will email you a copy of the study's cover letter with a summary of this information and our contact information.

**WHAT ELSE DO I NEED TO KNOW?** We may contact you for a follow up interview in the future. If you have questions, Shawna Bendeck, PhD student and Co-PI can be reached at 970-690-1306, shawna.bendeck@colostate.edu

*A recorded virtual interview acknowledges that you were read the previous information and understand that you willingly agree to the following:*

- I will participate in the virtual interview.
- I give permission for the researchers to contact me again in the future to follow-up on this study.
- I give permission for my demographics to be used for research purposes and understand that demographic data will not be linked to my personal information.
- I understand that a recorded virtual interview is to ensure that my comments are accurately recorded. Only the research team will have access to the audiotapes, and they will be destroyed when they study ends.

*Interviewer must now read the following statement after recording has started:*

*Thank you again for agreeing to this virtual interview. Now that I am recording, a verbal yes is needed to begin the interview:*

*Did I read you the consent form? (Yes required for next question).*

*Did you understand the acknowledgements and what you are agreeing to? (Yes required for next statement).*

*Great. Now we can move forward and begin the interview.*

APPENDIX E  
IRB DOCUMENTATION

PROTOCOLS



COLORADO STATE  
UNIVERSITY

The protocol listed below has been approved by the CSU IRB Determinations Fort Collins on Wednesday, September 2nd 2020.

PI: Cross, Jennifer

Submission Type and ID: Initial 2925

Title: Educational Experiences and Outcomes for Students, Families, and Educators During COVID-19

Approval Date: Wednesday, September 2nd 2020

Continuing Review Date: no date provided

Expiration Date: Wednesday, June 4th 2025

The CSU IRB (FWA0000647) has completed its review of protocol 2925 Educational Experiences and Outcomes for Students, Families, and Educators During COVID-19. In accordance with federal and state requirements, and policies established by the CSU IRB, the committee has approved this protocol under Exempt review.

Any additional comments regarding this approval are included below. If you have additional questions about this please contact [RICRO IRB Staff](#).

**Please note:**

- This protocol will need to undergo Continuing Review and approval prior to no date provided.
- Any additional changes to this approved protocol must be obtained prior to implementation of those changes, by submitting an amendment request to the CSU IRB for review/approval.

Good luck in your research endeavors!

Amendment 1 has been reviewed on September 2, 2020 and determined to not alter the exempt determination. This amendment includes updated survey to be distributed. The IRB has determined that the risk level remains no more than minimal. Approved documents include: Social Network Survey Questionnaire (tracked changes and clean versions).

**Attachments**

eProtocol History	Protocol_20-10107H.zip	1 INITIAL APPROVAL
eProtocol History	Protocol_20-10107H.zip	2 Amend 1 Current Versions
Consent	Edu COVID Consent Form - Recorded Interview_edits.pdf	
Recruitment Materials	Edu COVID Cover Letter 2020_Virtual_edits.pdf	

Screening Tool or Procedure Social Network Survey Questionnaire Edited Clean Version.pdf

Methodology Section