Abstract

The Effects of Social Isolation and Virtual Learning on Young Children During Mandated Lockdown

The COVID-19 pandemic mandates instituted to contain the spread of the virus may have had detrimental consequences on the mental health of those socially isolated and under home lockdown orders. Children who did not understand the crisis due to the novelty and unpredictability of the pandemic, along with the concern and stress of their parents, may present risk factors, such as anxiety and post-traumatic stress disorders (Giallonardo et al., 2020). Thus, investigating the short-term effects of the crisis and putting into perspective the consequences of social isolation and heightened experiences of stress will help to inform policymakers when dealing with ongoing and subsequent health crises. The COVID-19 global health crisis had profound effects on the educational system for all students, but especially the system's youngest learners. School closures were one of the most visible, and also controversial, instituted precautions to stop the virus. School closures affected 1.6 billion learners worldwide, which was 91% of global student enrollment (Dreesen et al., 2020). Virtual platforms became the leading educational delivery option used to replace traditional in-person learning. This research study investigated the social limitations school closings entailed and the impact it had on preschoolers' adaptation. Three hundred and six parents responded to the Preschool Shutdown Experience Survey, which examined the relationship between social isolation, virtual learning, traumatic stress response, and preschool adjustment during the COVID-19 pandemic. Parents reported that most of their children had online learning experiences during the pandemic and a majority of those children had at least half-hour learning sessions each time. When parents reported that children were more engaged in

school, they tended to report that their children experienced significantly lower traumatic stress reactions and had significantly better ability to control their temper. Engagement with online schooling was not significantly correlated with regressive behaviors. When parents reported that children had more siblings at home, they tended to report that their children experienced lower traumatic stress reactions. Although pandemics are novel, quarantine may occur more frequently. The current findings suggest the importance of fostering connectedness during times of uncertainty to promote wellbeing.

The Effects of Social Isolation and Virtual Learning on Young Children During Mandated Lockdown

by

Sarah Ben-Asher

Submitted in partial fulfillment of the requirements

for the degree of

Doctor of Education

in the Azrieli Graduate School of Jewish Education and Administration

Yeshiva University

September 2022

The committee for this doctoral dissertation consists of

Rona Novick, PhD, Azrieli Graduate School of Jewish Education and Administration at Yeshiva University

Mordechai Schiffman, PsyD, Azrieli Graduate School of Jewish Education and Administration at Yeshiva University

Ilana Turetsky EdD, Azrieli Graduate School of Jewish Education and Administration at Yeshiva University

Acknowledgements

I would like to take the opportunity to acknowledge my dissertation committee chairperson, Dr. Rona Novick, for her continued support and inspiration throughout the process. Amid a global pandemic, Dr. Novick made herself available to guide this dissertation's research and execution while maneuvering Yeshiva University's policies and procedures during a global pandemic institutional forced closure. I am incredibly grateful to Dr. Novick for the speed and diligence required to execute this research during a pandemic.

Dr. Ilana Turetsky and Dr. Mordechai Schiffman, thank you for your support, feedback, and advice throughout this dissertation process. Your input provided valuable feedback that enabled me to push through my personal limitations. Dr. Jenny Isaacs through your mentorship and coaching I gained solid experience and knowledge in research analysis. You are truly gifted in the way you explain and bring the statistical data to life.

Words cannot express the gratitude I feel towards the Silverstein Hebrew Academy administration and staff. First and foremost, I express extreme gratitude to Mrs. Shireen Dean-Butman for encouraging me to take the steps toward this degree. You have always supported me and provided opportunity after opportunity to ensure my growth and development as an administrator. Words cannot express the gratitude I owe Rebbetzin Chanie Geisinsky. She has been a mentor, spiritual guide, and a family to me since the day we met. As my head shlucha, she has been my inspiration for perfection. Furthermore, I would like to thank all the preschool teachers who continue to dedicate their lives to our preschool students' spiritual growth and education. Each one of you puts your life and aspirations into each child. You all are dedicated educators, and my pride and joy.

I thank my children Yosef, Meir, Mushky, Menachem, Yisroel, Zalman, and DovBer for allowing me the opportunity to attend classes and work on my dissertation. This degree would not be possible without your support and belief in my ability to complete this lifelong dream. The hours of babysitting and dinners made by the older siblings did not go unnoticed. Thank you for allowing me to be away from home and work on the computer without ever complaining. Your positive words and constant encouragement gave me the drive to complete this degree while raising a family and running a preschool. I would like to thank my daughter-in-law Tal, who always had words of encouragement and belief in my ability to complete my dissertation during the time the family spent summers in Israel.

I owe a lot of thanks and gratitude to my dedicated husband, Osher, for which none of this would be possible without his continuous support. No one has believed in me or supported my lifelong growth more than my dear husband. Words cannot express the feelings of admiration and appreciation for someone who selflessly worked day and night to ensure that I accomplished my lifelong dream to complete a doctorate. I dedicate this degree to him in hopes that I fulfilled his expectations as a partner in life, as he has far exceeded my expectations.

Table of Content

List of Tables

List of Appendices

Chapter 1: INTRODUCTION

Education is an essential part of a child's upbringing. It creates a framework for understanding life outside the home by providing structure, rules, social interactions, and academic learning. The educational infrastructure was hit particularly hard during the COVID-19 pandemic with school closures, students forced into lockdown, and massive systemic disruption across the globe. COVID-19 caused the largest disruption in the education systems in history, affecting almost 1.6 billion learners in over 200 countries (Pokhrel & Chhetri, 2021).

While the public health need for school closure continues to be debated, the potential negative consequences warrant consideration. The system's youngest and most vulnerable learners, just beginning to transition and engage with the world outside of their homes, were abruptly cloistered. At a pivotal stage in their development when relationships with peers and new adults began to form, the closure of preschools left young children isolated and with potential social consequences.

Despite the multiple factors that might impact preschoolers' adjustment, this study exclusively considers the social isolation mandated lockdown entailed. Preschool, more than any other educational setting, depends on play as a learning and socialization activity (Olfman, 2003). Play-based learning is an important facilitator of healthy social development and critical thinking skills (Parker & Thomsen, 2019). Recent advances in the conceptualization of the importance of social play (Rothbart & Putnam, 2002) further

validate the significance of socialization for children's adjustment and the need for the social developmental aspect of play-based learning.

Typically, the preschool educational system relies primarily on in-person instruction embedded within exploratory social play. With the unexpected pandemic-related mandates, educators scrambled to effectively meet the needs of their students. The transition to virtual learning, in most cases, resulted in limited if any opportunities for socialization and play and therefore may have impacted the mental health of children and their experience of stress on multiple levels through school closure, social isolation, and disruption to normal routines (Wang et al., 2020b).

The immediate challenge during the disruption to the educational system was creating an approach that would meet the diverse needs of students at all developmental levels. This required innovation and creativity to enhance remote learning, create socialization opportunities, and provide educational services accessible to students in their home environment. Most early childhood educators were not prepared for the transition to the virtual classroom (Atiles et al., 2021). The anxiety regarding a global pandemic coupled with a lack of resources and knowledge regarding online learning for young children created uncertainty.

Several studies dealing with severe infectious disease outbreaks affecting multiple countries have shown that they have not only physical but psychological health impacts (Hsieh et al., 2020; Sim et al., 2010). Current research is lacking regarding the trauma of a global disease outbreak and the combined influences of extended lockdown with social isolation on young children. This study was a secondary analysis of data gathered from parental reports of preschool children’s socialization with siblings, experience in virtual

school settings, and preschooler adjustment. Given the extensive impact the pandemic exerted on all areas of preschoolers' lives, Bronfenbrenner's ecological theory will be used as a conceptual framework.

We will begin the literature review with a consideration of the theoretical framework for the research and a brief examination of early childhood development. We will then focus on social development, the role of play, the role of preschools in general, and Jewish preschools in particular. Then we will turn our attention to trauma and the impact of COVID-19 which leads to our research questions that investigate the impact of mandated lockdown, social isolation, and virtual learning on preschool children during the global COVID-19 pandemic.

Chapter 2: REVIEW OF THE LITERATURE

The present study was designed to expand on current research by contributing to the understanding of the connections between socialization, emotional adjustment, and post-traumatic experience in preschool children during an unprecedented time in history. This study aims to examine the relationship between a child's opportunities for socialization and their adjustment and experiences of traumatic stress during a global disease outbreak. The literature review discusses the theoretical underpinnings of child development in the preschool period and the research on children confined to a single environment for an extended period of time during the preschool years. The theoretical framework for this research will be the ecological theory of Bronfenbrenner, which provides a perspective on children's social-emotional development as it relates to their ecological environment.

Theoretical Framework

Bronfenbrenner's Ecological Systems Theory

Bronfenbrenner viewed development as unfolding through a complex system of relationships within the surrounding environment organized into various levels with the central force being the active child. According to Bronfenbrenner (1979), the overall ecological environment consists of nested, interrelated systems, known as the microsystem, mesosystem, exosystem, macrosystem, and chronosystem. Each system is unique to the specifics of the particular child's life and offers diverse sources of growth as well as potential challenges. Within this model the child shapes the environment, evokes responses from the environment, reacts to those responses, and is in turn shaped by the process (Bronfenbrenner, 1977; Darling, 2007). As a child develops, the interaction within the various levels of the

environment becomes more complex promoting the evolution and maturation of the child's physical and cognitive structures (Paquette & Ryan, 2001).

When proposed, Bronfenbrenner's model signaled a change in the way children were viewed. Previously children were seen as objects of development. Through Bronfenbrenner's model, children began to be regarded as socially active participants in the world as well as recipients of its influence. Children began to be researched within the contexts in which they live (Elliott & Davis, 2020).

The microsystem is the first level of Bronfenbrenner's theory and consists of the child's relationships in the immediate environment (Bronfenbrenner, 1979), such as those with parents, siblings, teachers, and school peers. The mesosystem, or the second level, is composed of the interactions between the child's microsystems, including a single person (e.g., teacher or parent), clusters of people (e.g., classmates), or environments (e.g., school, home) (Ozaki et al., 2020). The third level called the exosystem, incorporates social structures, which do not themselves contain the child, but indirectly influence the child as they affect one or more of the child's microsystems (Bronfenbrenner, 1979), such as the father and mother's place of employment and the salaries that provide for the child's needs. The macrosystem, or the fourth level, focuses on how cultural elements affect a child's development, such as socioeconomic status, wealth, poverty, and ethnicity. The fifth and final level is known as the chronosystem. This system consists of the environmental changes that occur over the lifetime which influence personal development, including physical growth, change in personality, and development of maturity (Ozaki et al., 2020).

Bronfenbrenner recognized that there are multiple aspects of a developing child's life that interact and affect the child. In the school setting, engaging academic environments

coupled with continuous positive and supportive interactions with adults and peers shape the child's growth. Bronfenbrenner stressed the importance of consistent and meaningful interactions with significant adults as a necessary component of a child's continuous development (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 1998). Schools and teachers provide stable and secure relationships that support students' development and provide a sense of security allowing children to explore and learn in their environment, even during challenging times.

Early Childhood Development

Although a thorough discussion of the extensive research in early childhood development is beyond the scope of this paper, a brief review to contextualize the current research is provided here. Development during early childhood takes place at a rate that exceeds any other stage in life (National Research Council, 2000).

This is evident physiologically, as the preschool child's body changes at a rapid pace. By age three, the typical child has mastered many skills, including sitting, walking, toilet training, scribbling, and sufficient hand-eye coordination to use eating utensils. Between three and five years of age, children continue to grow and begin to further develop coordination and strengthen fine motor skills. Control of pencils, crayons, and scissors develops around age five. Gross motor skills at this age include climbing, running, jumping, and balancing on one foot. Physical development in early childhood is coupled with rapid changes in the child's cognitive, language, and social development (Anderson et al., 2003).

Critical dimensions of early childhood development are self-regulation, the development of early relationships, acquiring knowledge, and skill acquisition (Anderson et al., 2003). Consistent with Bronfenbrenner's theories, research has documented that these

dimensions of development are affected by the child's neurobiology, relationships with caregivers, and physical and psychosocial exposures in the caregiving environment (Shonkoff & Phillips, 2000).

Social Competence Development

Establishing and maintaining relationships with others is a critical component of children's social-emotional development in early childhood years and the foundation upon which later social behaviors are based. Early relationships enable children to develop social skills, respond to peers, and express their emotions in healthy ways (Vespo, 1991). Social interactions during this period of development help children learn to engage in social play, interact appropriately with peers, resolve conflicts, and develop friendships (Johnson et al., 2000).

Howes (1983) suggested that complex social skills are best learned through stable social interactions with peers where social skills develop within a friendship. In a supportive environment such as a preschool, children develop social competence by navigating social situations, taking others' perspectives into consideration, learning from past experiences, and applying the acquired knowledge to new social interactions. Children learn about their social world and how to navigate their environments through direct peer engagement and indirect observation of peers within their natural settings (Bandura & Walters, 1963; Denham et al., 2020).

Quality preschool programs aid children in the development of social and emotional skills (Gordon & Browne 2014). Teachers play an important role in helping students gain competency in the areas of social and emotional development in the preschool classroom (Kostelnik et al. 2014). Teachers can intentionally support children's social and emotional

health by modeling appropriate behaviors and helping children navigate social situations and conflicts.

Camilli and colleagues (2010) completed a meta-analysis of 123 comparative studies of early childhood programs and interventions to determine the effects of early childhood programs on learning and social outcomes. Significant effects were found for children who attended a preschool program prior to entering kindergarten. Although the largest effect size observed was for cognitive outcomes, a preschool education was found to positively impact social skill development.

Preschool provides a structured, supervised, opportunity for social-emotional development. Şahin and colleagues (2013) investigated the views of 35 parents whose children attended a private preschool. The semi-structured interview protocol utilized four demographic-based questions, and six open-ended questions. The majority of parents (n=23) stated that children's social development was the most important factor for enrolling in preschool. In addition, most parents (n=22) expressed expectations that the preschool program would support social skill development by helping children socialize with peers and learn to share. This small sample size and single geographical location limits drawing conclusions about parental preschool choices and priorities.

Preschools play an important role in the development of social-emotional competencies that promote social growth. Social interactions require children to implement appropriate strategies, such as conflict resolution when difficulties in interactions arise. During the early childhood years, play is an essential tool integral to the development and facilitation of these social skills.

Role of Play

Educators and researchers recognize the important role that play has in the healthy development of children (Nijhof et al., 2018). Play is an essential and critical part of a child's growth and encourages socialization, risk-taking, and problem-solving (Yogman et al., 2018). Within play, children test their beliefs about the world; while utilizing their creativity and imagination (Wood & Attfield, 2005). As children master their world, play enables the acquisition of new competencies that lead to enhanced confidence and the resilience needed for future challenges (Erickson, 1985).

The role of play in supporting children's developing cognitive, emotional processes, and self-regulatory abilities are areas of current investigation with research indicating that the absence of play impairs the development of young mammals. Now we will look at research using animals as subjects due to the ethical concerns of subjecting children to social isolation. In an experiment conducted by Hol et al. (1999), rats were isolated at various points of development and compared with those raised in a typical environment. When the isolated and typically raised rats were assessed at 12 weeks, the socially isolated rats displayed lower levels of socialization. Social isolation during the fourth week resulted in similar findings, although when these rats were rehoused with the non-isolated rats, the reduced social activity was not evident. Isolation exclusively during the 5th week after weaning demonstrated no impact on social activity patterns in adulthood. These findings support the idea of there being a critical period during early social development, with deprivation of play in the early stages of life causing social behavior disturbances through adulthood.

Baarendse and colleagues (2013) similarly investigated the importance of social experiences during the juvenile stage of development. Rats were socially isolated from the 21st through the 42nd day after birth and reintroduced to their social environment from the 42nd day until adulthood. Early social deprivation heavily impacted social behavior, resulting in a lack of impulse control and impaired decision-making throughout adulthood. The exact pattern of behavioral changes depended on the precise period of social isolation the rats had experienced.

Research with children would never eliminate socialization for ethical reasons, and therefore a more naturalistic study is necessary. Krafft and Berk (1998) observed three to five-year-olds during free-choice periods in a Montessori and in a traditional play-based program. The researchers observed that self-directed language occurred at a much higher rate during open-ended activities involving play where children set the goals for the tasks, rather than during tasks with predetermined goals. This research supports Vygotsky's theory that play serves as the essential context for self-regulation and skill development in preschool children (Whitebread & O'Sullivan, 2012).

In research conducted by Connolly et al. (1988), 37 four and five-year-old children were observed, in small groups of four, in a series of play sessions. Social interactions were monitored during pretend play and non-pretend activities to determine whether positive and mature social behaviors were present. During pretend play within the preschool setting, children's social interactions involved larger groups of children, lasted for longer periods, and showed more play involvement and greater reciprocity than in non-pretend activities. The results substantiate prior empirical work which highlights the educational significance of social play in early childhood programs.

Howes and Matheson (1992) assessed peer play in children aged 10 to 59 months. In sample one, 259 children attended minimally adequate child-care centers in 45 different facilities. Thirty-six percent of the children were African-American and 61% European-American, with 80% of the children coming from a two-parent home. Sample two of the same research study consisted of 48 children who attended a model child-care center ranging in age from 10 to 60 months. The children were predominantly European-American and from two-parent middle to upper-middle-class families. Children in the model child-care center demonstrated more complex play that emerged at earlier ages than the children in the minimally adequate centers. The children who engaged in more complex play were observed and rated as more friendly, less aggressive, and less withdrawn in later development periods during subsequent observations. Increases in the frequency, proportion, and earlier age of onset of the emergence of peer play were positively associated with the childcare center's quality. These findings suggest that a quality child-care setting with ample opportunities for complex peer pretend play positively promotes children's social skill development.

Not only is there evidence that play is an essential part of the preschool setting, but that it drives social development. Cooperative play enables children to develop and hone their social skills as they figure out how to negotiate group dynamics. The preschool setting is a prime example of an environment structured to facilitate play that provides constant opportunities for social development.

Role of Preschool

The preschool years are considered a crucial period in the development of pre-academic skills and executive functioning (Garon et al., 2008; Traverso et al., 2019). Pre-academic skills consist of the knowledge and skills that are predictive of school readiness and later

academic achievement (La Paro & Pianta, 2000); while executive functioning is the ability to self-regulate and use higher-level cognitive skills to control and coordinate a child's cognitive abilities and behaviors. Early childhood programs play a crucial role in the pre-academic skills and executive functioning development of children.

In an earlier report, Kochanska and colleagues (2000) found significant outcomes for children who attend a preschool program prior to entering kindergarten. Their meta-analytic analysis of 123 comparative studies included both quasi-experimental and randomized studies. The largest effect sizes were observed for both cognitive and social outcomes, with the preschool experience found to positively impact both children's mastery of social skills and school progress later on. Bowman and colleagues (2001) support these findings, stating that children between the ages of two and five years are competent learners and capable of acquiring linguistic, mathematical, and social skills necessary for school readiness through the assistance of appropriate educational support.

Ricciardi and colleagues (2021) use a large-scale sample of 33,717 ethnically diverse students from a largely low-income sample to assess the predictive power of a wide range of school readiness skills measured at age four in preschool on authentic academic outcomes through Grade 5. The researchers found that preschool socioemotional readiness skills were consistently related to kindergarten to 5th grade outcomes. The findings suggest that school readiness skills at age four have a long-term influence on academic performance in elementary school and that socioemotional skills are an important component of school readiness.

Howes and colleagues (2008) examined children's growth in academic learning and social skills over the pre-k year in state-funded programs designed to prepare children for

kindergarten. The researchers expected that children's gains in academic and social skills could be attributed to variations in the structural and classroom process dimensions of program quality. Around 28,000 children were randomly selected, four per classroom, from approximately 700 randomly selected, state-funded pre-k classrooms in eleven states. Enrollment in pre-k programs appeared related to gains in academic skills. Children showed larger gains in academic outcomes when they experienced higher-quality instruction or closer teacher-child relationships.

An important study of preschool outcomes helped unpack which components of preschool education drive development. The Cost, Quality, and Outcomes (CQO) Study focused on children who attended child-care centers of varying quality in four states (Peisner-Feinberg et al., 2001). Quality was measured by classroom practice observations and by teacher reports of the teacher-child relationships with children at the age of four. Children's developmental outcomes were then measured for 345 participants at five, six, and eight years old. Closer teacher-child relationships in child care centers predicted higher standardized test scores in language and math, with higher cognitive and attention skills noted by their teachers. These effects did not decline over time. Close teacher-child relationships in preschool also predicted fewer behavioral problems and a greater ability to socialize in school.

Role of Jewish Preschool

Preschool educational programs assist children in building a strong foundation in social, pre-academic, and general life skills; whereas Jewish education programs are critical in sustaining the quality, vitality, and continuity of Jewish life (Goodman, 2010; Levisohn, 2013). The Jewish tradition has always valued education (Brody, 2018). Attending a Jewish

preschool can facilitate a lifetime of Jewish learning, and give children a clear sense of their history and identity. Children identify as part of an inherently larger community through learning about their rich culture and traditions (Super & Harkness, 1997; Cohen & Liberman, 2019).

For decades, leaders in Jewish education have maintained that the early childhood period is crucial for instilling a strong Jewish identity in children (Nutbrown & Clough, 2014; Ravid & Ginsburg 1988). The Board of Jewish Education of Greater New York noted a significant increase in enrollment between children 2 years old and under since 2002 with enrollment between two-year-old programs and four-year-old programs almost doubling (Vogelstein, 2008). Early childhood education is a critical entry point into Jewish life for previously unaffiliated parents of preschoolers and has the potential to significantly increase the number of Jewish families engaged in ongoing Jewish learning (Grant & Schuster, 2011; Woocher & Woocher, 2014).

Beck (2002) surveyed parents who sent their children to a Jewish preschool in three cities: Baltimore, Denver, and Chicago. In-depth interviews were conducted between November 2001 and March 2002. Parents were interviewed about their experiences with the child who graduated from one of the nine Jewish preschools. After graduating from the Jewish preschools, the majority (76%) of the interviewed families continued their children's Jewish education. Twenty percent of the families sent their child to a Jewish day school, while 53% sent their child to a Sunday Hebrew school program. The Avi Chai Foundation (2019) found that there was a 34% increase in the number of Jewish schools over the past 20 years, which demonstrates the increase in Jewish children being enrolled in Jewish educational programs.

Families often report having more friends after becoming parents, and parents who send their children to a Jewish early childhood program connect with a community of Jewish parents (CASJE, 2020). Parents meet other families and develop a connection to their local Jewish community, which creates a sense of belonging (Wertlieb & Rosen, 2008). The family connections and identity that develops during this period can have a strong impact on the family's Jewish growth and observance (Reback, 1984). There is a substantiating need for quality Jewish preschools and early childhood programs. After considering the normative elements in preschool development, the socialization that preschool programs provide, and the unique role of Jewish preschools, we turn attention now to the unusual and traumatic circumstances the COVID-19 pandemic created and the research on how trauma impacts children.

Trauma and Preschool Age

Defining Trauma and PTSD

According to the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition *(DSM-V)*, trauma involves an actual or threatened death, serious injury, or sexual violence (APA, 2013). The traumatic event may cause the individual to feel helpless, afraid, or out of control and may result in Post-Traumatic Stress Disorder (PTSD). The DSM first introduced PTSD as an anxiety disorder in the third edition (APA, 1980). In the DSM-V, PTSD is included in a new category known as Trauma and Stressor Related Disorders (APA, 2013). All of the conditions included in this classification require exposure to a traumatic or stressful event as a diagnostic criterion. Symptoms of PTSD include recurrent traumatic memories of an event, a tendency to avoid people or situations that are associated with the trauma, and an increase in arousal and reactivity associated with the trauma (APA, 2013).

Symptoms must have a minimum duration of one month and significantly interfere with social, occupational, or other important functioning areas. While a subset of those exposed to trauma will experience PTSD, many may only experience some symptoms or increased stress (Adams & Boscarino, 2006; Kessler, 2000; May & Wisco, 2016).

Unfortunately, trauma is not a rare occurrence in people's lives. Mass traumatic events involve multiple people and are likely to be followed by loss of property and extensive economic hardship, thus increasing the severity of the PTSD symptoms and syndromes experienced by the people involved. Current discussions of trauma also recognize the impact of chronic stressors such as living in violent areas or in poverty.

Trauma can cause a person to feel vulnerable and experience genuine fear of death or injury to themselves or people close to them. The diagnosis of PTSD, when first constructed in 1980, and the understanding of trauma impact, was thought to only be relevant to adults. Leonore Terr researched (1983) the psychological impact on a group of children who were kidnapped and held hostage and provided the first conclusive evidence that children and adolescents can experience PTSD as well. It is not only clear from the work of Terr and others that children can experience PTSD (Dyregrov & Yule, 2006; Hamblen & Barnett, 2014; Scheeringa & Zeanach, 2001) but trauma impacts them in multiple ways. The following section will explore the particular impact for preschoolers.

Emotional and Behavioral Impact of Early Childhood Trauma

Negative experiences during the sensitive period of early childhood may have a stronger impact due to the rapid pace and critical nature of development at this age. The newly developed trust in people and vulnerability to change may make preschoolers more susceptible to trauma. The child's brain plasticity makes it exceedingly vulnerable to

negative experiences, particularly life-changing events (Zeanah, 2009). Young school-aged children are often more psychologically affected by a disaster and exhibit aggressive and oppositional behaviors, separation anxiety, somatic complaints, and changes in sleeping behaviors, as compared to adults and older children (Norris et al., 2002).

After Hurricane Hugo struck the Charleston, South Carolina area in September 1989, researchers collected quantitative data and qualitative observations in relation to how preschoolers responded (Saylor, Swenson & Powell, 1992). Parents of over 200 preschoolers completed a 21-item Pediatric Emotional Distress Scale (PEDS) eight weeks and fourteen months after the hurricane. Parents were also questioned about their own experiences and about the occurrence of other life stressors at fourteen months post-hurricane. The researchers saw a decrease in behavioral problems and an increase in adjustment as time passed. Fourteen months after the hurricane, nine percent of the children continued to incorporate hurricane themes in play, nine percent spoke about the hurricane in conversations, and fourteen percent were still fearful of storms. In comparison to children who had not experienced a hurricane, the preschoolers in this study showed significantly higher levels of anxiety, withdrawal, and behavior problems. Children with additional life stressors after the hurricane, such as a death in the family or those children whose families suffered the loss of property, were more likely to experience long-term emotional and behavioral issues (Swenson et al., 1996).

Exposure to trauma and multiple stressors may compromise a child's development and cognitive growth (Cook et al., 2005). COVID-19 was a broad impact disaster that was followed by an extended period of life stressors, such as the mandatory lockdown. As such, it

may have a significant negative impact on the child (De Bellis, 2001) impairing the ability to cope.

Quarantine as a Source of Trauma

We have discussed the vulnerability of preschoolers to trauma and will now explore the elements of quarantine as related to lockdown that may be traumatic and foster traumatic stress responses. Despite the advances in modern medicine, outbreaks of disease continue to occur and cause significant disruption. While disease outbreaks that result in a pandemic have much in common with other disasters, such as fatality, unpredictability, and community-wide impact, responses to pandemics vary from other disasters by encouraging and mandating separation and isolation through the quarantining of victims and people in danger of exposure. Although such measures may sequester the outbreak, the unintended consequence of disrupting family routines and breaking social and family norms may interfere with the family's ability to function.

A viral respiratory illness caused by the SARS-associated coronavirus (SARS-CoV) was first reported in Asia in February 2003. The virus spread to more than two dozen countries in North America, South America, Europe, and Asia before it was able to be contained (Center for Disease Control and Prevention, 2004). Early detection, isolation of infected cases, and quarantine of those exposed were utilized to prevent the spread within infected communities. On February 23, 2003, SARS-CoV was introduced to Canada by a Hong Kong visitor who returned to Toronto (Varia et al., 2003). The outbreak in Canada resulted in the isolation of asymptomatic individuals who might be incubating the SARS-CoV infection or who were thought to have had contact with an infected person (Schabas, 2004). Hawryluck and colleagues (2004) surveyed 129 adults between the ages of 18 and 66

who were quarantined for a maximum of 10 days. The research demonstrated a high prevalence of psychological distress (28.9% of participants) at the end of the quarantine similar to the distress seen after exposure to terrorist attacks. Conclusions are limited by the fact that the number of respondents was low compared to the total number of people placed in quarantine; however, the mean Impact of Event Scale-Revised score was greater (23.7%) for those in quarantine more than 10 days compared with those in quarantine for less than 10 days (11.7%)

Reynolds and colleagues (2008) surveyed 1,057 adult participants from the Toronto area who were quarantined between 2 to 30 days due to the 2003 SARS-CoV outbreak, using a self-report questionnaire. Participants reported an increase in psychological distress when quarantined for an extended period of time. Increased quarantine compliance was associated with increased PTSD symptoms as measured by higher Impact of Event Scale-Revised (IES-R) scores. Compared to Hawryluck et al. (2004), who reported that 28.9% of respondents scored increased PTSD, Reynolds' team found increased PTSD symptoms in 14.6% of respondents. The difference in results may be attributable to the larger population of respondents in the Reynolds study versus the self-selected internet sample and the increased number of healthcare workers used by Hawryluck.

Pandemics, though infrequent, may be a potentially devastating crisis and can affect the lives of many children and their families physically, socially, and psychologically. The Center for Disease Control and Prevention (CDC) has acknowledged that mental health is an integral part of successfully addressing communicable disease outbreaks (Safran, 2009). The use of a post-traumatic stress framework is the first step toward determining the psychological impact of a pandemic while providing evidence-based assistance to meet the

needs of the survivors. In a study by Sprang and Silman (2013) comparing post-traumatic stress symptoms in parents and children quarantined in the United States from the H1N1 virus with those not quarantined, the mean post-traumatic stress scores were four times higher in children who had been quarantined. Twenty-eight percent of the 98 quarantined parents in the study, ranging in age from 18 to 67 years with a mean age of 37, reported symptoms that warranted a trauma-related mental health disorder diagnosis. In comparison, only 6% of the 299 parents not quarantined reported significant trauma-related symptoms. Among adult participants that scored in the clinical PTSD range, 86% had children that also scored in the clinical PTSD range. The findings strongly suggest that public health professionals, behavioral health professionals, and educational policymakers conducting post-pandemic research for mental distress need to consider the negative psychological impact on the family unit under quarantine conditions.

Responding to the outbreak using quarantine as a primary control measure, unfortunately, represents a significant challenge to public mental health. Not only is there a risk of parents having an increased risk for PTSD, but their children are at risk as well. This is as one would expect given Bronfenbrenner's theory of interconnected spheres of influence on children's lives.

COVID-19

The most recent infectious disease outbreak, known as COVID-19, caused global panic as the world attempted to control the mass spread of a virus with little known about its contagion or lethality. A variation of the SARS-CoV strain called Coronavirus 2 (SARS-CoV-2) was first identified in Wuhan, China in December 2019 (Center for Disease Control and Prevention, 2020) and later in the US in January 2020 (Pan et al., 2020). This COVID-19

virus rapidly spread (Center for Disease Control and Prevention, 2020), enabling the coronavirus epidemic to reach unprecedented proportions. The dangerous rate of infection disrupted nearly all elements of normal living including family life, healthcare, work, education, financial operations, transportation, manufacturing, emergency and other social services, recreation, the functioning of local and national governments, and global institutions (Masten & Motti-Stefanidi, 2020). The United States alone reported 1,033,157 positive cases by April 30, 2020 (Lutton, 2020). The COVID-19 virus caused more than 3.5 million reported deaths as of May 2021, and created significant physical, emotional, and economic struggles worldwide (Our World Data, 2021). The rapid spread of the infection required drastic measures to slow the advancement of the virus (Center for Disease Control and Prevention, 2020).

The threat of COVID-19 was high for those whose employment required close contact with others, including teachers and other adults providing direct care to children. Children infected with SARS-CoV-2 were asymptomatic or had mild symptoms indistinguishable from other common upper respiratory tract infections (Auger et al., 2020; Dong et al., 2020b), thus delaying the diagnosis of the virus and enabling children to spread the virus to other children and adults. The contagion unpredictability and lethality of the COVID-19 virus forced school closure worldwide to protect the well-being of students, family members, and staff. Understanding how people cope and respond to the unusual set of circumstances the COVID-19 quarantine and mandated lockdown required may help us provide the support and services that would make social isolation mentally tolerable.

COVID-19 Mandated Lockdown

The World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020, forcing policymakers to consider a lockdown as a viable method of controlling the infectious disease epidemic, even with significant psychological, emotional, and financial implications on socially isolated families and children (Taghrir et al., 2020). Childcare centers, K-12 schools, and nearly all colleges and universities within the fifty states closed within a ten-day period, with nearly 21 million children in childcare, 57 million kindergarten-12th-grade students, and 20 million college and university students in the United States affected (Donohue & Miller, 2020). By April 15, 2020, 91.3% of children enrolled in schools, reaching 1.5 billion children worldwide from 192 countries, were mandated to remain home (Bao et al., 2020).

On March 13, 2020, President Trump declared a nationwide state of emergency as a result of the COVID-19 global outbreak (FEAMA, 2021). To combat the spread, the government required citizens to stay home, sanctioned social distancing, enforced wearing face masks, and limited social contact; thus, significantly limiting socialization and contributing to social isolation (Fegert et al., 2020).

In areas where the rate of COVID-19 positive cases were extremely high, a mandated lockdown was instated. During a lockdown, people were restricted from leaving their homes except for essentials like food and medical care. Even though children tended to react negatively when a lockdown is a long-term event (Buchanan, 2017), children were prevented from returning to school and engaging in face-to-face communication with peers for multiple weeks in some cases and multiple months in others. Orgiles and colleagues (2020) surveyed 1,143 parents of Italian and Spanish children aged 3 to 18 years to determine the effect on the

children and the parents, as compared to before the home confinement. Results show that 85.7% of the parents perceived changes in their children's emotional state and behaviors during the lockdown. Spanish parents observed more emotional and behavioral symptoms than Italian parents, which may be explained by the fact that young people in Italy had more opportunities to be physically active since they were allowed to go outdoors more often during the lockdown.

Gao and colleagues (2016) found that children's mental state was affected by the family environment. Longer societal lockdown resulted in more family conflicts and affected the parent-child relationship, which influenced children's well-being (Spinelli et al., 2020). Although mandated societal lockdowns increased the time families spent together, an additional burden was placed on parents.

COVID-19 Effects on Individuals and Families

During the COVID-19 outbreak, school closure impacted families by disrupting family routines, requiring childcare alternatives, and modifying work schedules (Donohue & Miller, 2020). Individuals lost the freedom to maneuver outside of the home and were under mandated orders to separate from friends and external family. The uncertainty resulting from the global pandemic would seem likely to lead to severe emotional repercussions. We will consider some of the research on adult response to lockdown before considering how preschoolers may have been impacted.

Rosen et al. (2020) collected data in March 2020 from 303 adults under lockdown from Westchester County and Northwest Bronx, using the Subjective Units of Distress Scale (SUDS) and the Beck Anxiety Inventory (BAI). The lockdown range lasted from one to fourteen days, with 71% of the sample ordered to remain home between 12-14 days.

Completely homebound individuals experienced distress and anxiety at elevated levels. High levels of anxiety and distress characterized by difficulty functioning were reported in 24.8% of the participants, with 69% of the sample reporting moderate to severe anxiety and distress levels. It should be noted that the sample was limited to residents of New York City or lower Westchester and may not represent the larger population of individuals that experienced lockdown and related restrictions in the United States.

Wang and colleagues (2020a) assessed the psychological impact of COVID-19 using the Impact of Event Scale-Revised (IES-R) and assessed mental health status with the Depression, Anxiety and Stress Scale (DASS-21) among 1,210 respondents from 194 cities in China. The majority of respondents were women (67.3%), 53.1% were aged 21.4 to 30.8 years, 76.4% were married, and 80.7% lived in a household of three to five people. Of the lockdown participants, 53.8% reported moderate or severe psychological impact due to the outbreak, 16.5% reported moderate to severe depressive symptoms, 28.8% reported moderate to severe anxiety symptoms, and 8.1% reported moderate to severe stress levels. Most respondents (84.7%) spent 20–24 hours per day at home, with 75.2% worried about their family members contracting COVID-19.

In June of 2020, Patrick et al. (2020) conducted a national survey, of parents with children in the United States younger than 18, to measure the degree to which the pandemic and mitigation efforts affected families' physical and emotional well-being. Since March 2020, 27% of the parents surveyed reported declining mental health, and 14% reported deteriorating behavioral health for their children. Decline in mental health for parents occurred alongside a decline in behavioral health for children in nearly 1 in 10 families.

In a study that specifically looked at lockdown factors, Saurabh and Ranjan (2020), studied 121 children and adolescents ages nine to 18 who were placed either in home lockdown or facility lockdown with in-depth child and parent interviews. The researchers questioned adolescents about their understanding of the rationale for lockdown, lockdown behaviors, and the psychological impact of lockdown. This study found 68.59% of those interviewed experienced worry, 66.11% reported helplessness, and 61.98 % reported fear. Children and adolescents under lockdown had statistically more significant psychological problems than the 131 who were not. There are several limitations of this study, including the small sample size and the methodology of asking children and parents to retrospectively report their feelings and behaviors which can be subject to recall biases.

In times of extreme stress and threat from the outside world, children may turn to the safety of their immediate family (Pfefferbaum et al., 2017). Research on children exposed to natural disasters acknowledges that the safety and support offered by family is necessary due to the need for reassurance post-disaster (Costa et al., 2009). Cassinet and colleagues (2021) found that more positive experiences with family members were associated with less depressive symptoms during COVID-19 and increased positive interactions with siblings were associated with positive outcomes for all siblings involved.

During the lockdown period families were physically and socially isolated from the outside world, and siblings provided a convenient opportunity for social engagement within the home environment. During the early stages of COVID-19, Cassinet and researchers also found that adolescent participants had as many positive interactions with siblings as with peers with a 30 % increase in interactions with siblings. The finding suggests that the sibling relationship may serve as a natural compensation for the decrease in peer relationships.

In a research study, Elsakka (2021) found that the presence of siblings during the COVID-19 home confinement had the potential to improve the quality of life for the participants. The interaction and sharing activities between siblings helped younger children overcome the home confinement during the lockdown. The researcher found that having three or more siblings was associated with higher scores of quality of life than having one to two siblings. The research aligns with the World Health Organization's (2004) statement that companionship is essential for children's psychological development and well-being.

COVID-19 Effects on the Educational System

Lockdown not only impacted homes but forced educators to find new means of delivering their services. During the forced school closures, the educational system's transformation impacted instructional practices, academic policies, and financial resources. Teachers, families, and learners were unprepared for the sudden shift to online platforms, revealing challenges in the expectation of increased parental involvement to assist children with distance learning (Garbe et al., 2020). Educators had little time to prepare and refine new technology-mediated instructional approaches (Tarrant & Nagasawa, 2020) that were not necessarily developmentally appropriate for preschool children or independently accessible to such young students.

Early childhood programs in the United States reacted to the challenges of continuing education as the pandemic forced closures. Variation in responses resulted from location, number of COVID-19 cases, and economic resources. Some early childhood programs opted for online learning, home visits, one-to-one calls, dropping off supplementary educational materials, a combination of in-person and virtual learning opportunities, or complete cessation of school activities and learning. Despite debates regarding young children's

internet exposure, during COVID-19, online teaching and learning became an indispensable option for some preschools (Garbe et al., 2020).

Teachers entered a virtual education world that required them to find new ways to maintain academic learning while also protecting and cultivating social connections to and for students and parents through virtual modalities. Teachers transitioned to radically different educational delivery models while adapting to rapidly changing paradigms and an uncertain future (MacIntyre et al., 2020). Some educators experienced fear and trepidation with transferring their classrooms online, but the majority transitioned rapidly (Goldschmidt, 2020).

With schools transitioning to virtual platforms or ceasing all operations, parents experienced increased responsibility for their children's learning (Liu et al., 2010). As the physical closure of schools led to a rapid shift to remote learning, Garbe et al. (2020) collected data from a sampling of 122 parents having at least one child who attended a physical school learning environment before school closures in the spring of 2020. Parents that responded included 66 with pre-k and kindergarten-aged children, 70 with those in early elementary (1st-3rd grade), 47 with children attending upper elementary (4th - 6th grade), 29 with middle school level (7th-9th grade), and 26 with adolescents in high school (10th -12th grade), and 8 with college students. Thematic coding was utilized to analyze parental responses regarding their greatest educational struggles.

A vast majority of parents agreed with the school closure policy (89.3%), 60.7% were satisfied with the support level, and 82.8% with the school districts' resources. However, 62.3% of parents surveyed needed to spend more than an hour per day supporting their child's learning at home. In open-ended questions about parents' struggles, researchers noted

four distinct areas: balancing parent employment demands and learner needs, assisting multiple children with home learning needs, lack of personal balance, and feeling overwhelmed. Forty-four respondents expressed difficulty with completing job-related tasks and supporting their child(ren) in completing schoolwork. Parents reported a significant emotional toll as a result of supporting students' remote learning. In addition, parents were concerned about the quality or quantity of content and the curriculum rigor, thus adding to concerns about academic progress. Since the survey recruited volunteer participants through social media, the sample may not represent a true cross-section.

Focusing exclusively on the preschool population, Dong and colleagues (2020a) had 3,275 parents whose children enrolled in local early childhood programs in the Henan Province of China, complete an online survey. The majority of parents were between 30 and 39 years old (68.3%). Most parents (92.7%) in the study reported that their children had online learning experiences during the pandemic, and 84.6% spent less than a half-hour learning virtually. The survey was divided into three sections: demographics, online learning experience during the pandemic, and parents' perceptions about online learning. Parents indicated that their children learned online once (43.1%) or multiple times (18.4%) per day, whereas others had only learned once, twice, or three times per week. The parents generally had negative beliefs about online learning's values and benefits and preferred a traditional education experience in an early childhood setting. Only 18.4% of participants believed that online learning has better learning content, 11% believed online learning had better learning outcomes, and 12.6% thought it was more efficient than the traditional approach. Parents tended to resist and even reject online learning for three key reasons: the shortcomings of online education, young children's inadequate self-regulation, and the parents' lack of time

and professional knowledge in supporting children's online education. The results suggest that the implementation of online learning during the pandemic has been problematic and challenging for families of preschool children.

During the COVID-19 school closures, Jewish early childhood educators worked with tremendous speed, diligence, and focus to master new technologies and pivot during the crisis (Levites, 2020). Unlike other educational programs, such as yeshivot and day school, it was almost impossible for early childhood programs to provide online learning that approximated the quality of care and developmentally appropriate activities provided in the classrooms. With the limited ability to maintain young children's focus on virtual educational supplements provided during the pandemic, early childhood educators struggled to create educational programs during the lockdown.

While it may seem clear that school closures have a negative impact, the extent of their effects on children's growth and development is yet to be determined. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) listed "interrupted learning" as one of the top adverse consequences of COVID-19 school closures (UNESCO, 2020). The negative student outcomes that the Covid shutdown caused may only be fully understood years after the outbreak.

COVID-19 and Socialization

Establishing relationships with people of different age groups, observing social interactions, and implementing newly gained social skills play a paramount role in preschoolers' social development. Companionship and social interaction are essential elements for normal psychological development and a child's well-being (Saurabh & Ranjan, 2020); and schools are an integral part of facilitating the child's overall social development

(Deutsch, 1964). As a possible consequence of the prolonged closure of early childhood programs in response to COVID-19, children's socialization and mental health may have been compromised.

The global closure of educational facilities greatly disrupted preschoolers' socialization. In addition, lockdown mandates restricted social play and resulted in children being physically separated from friends and having limited social activities (Masten & Motti-Stefanidi, 2020). The social distancing and the limited social interactions may have negatively impacted children's emotional well-being.

In a study by Orgilés et al. (2020), researchers focused on the emotional impact of lockdown on children and adolescents from Italy and Spain during the COVID-19 outbreak. Participants consisted of 1,143 parents of children aged 3 to 18 years who completed a survey providing information about how the lockdown affected their children and themselves. During the lockdown, 85.7% of parents reported changes in their children's emotional state and behaviors. Although a multi-informant data collection method would have been desirable, self-reports were not considered an adequate method to collect data for the youngest population in this research. Parents reported that a high percentage of children in lockdown experienced emotional challenges including difficulty concentrating (76.6%), boredom (52%), irritability (39%), restlessness (38.8%), nervousness (38%), feelings of loneliness (31.3%), uneasiness (30.4%), and worries (30.1%). When family interactions became difficult during the lockdown, the situation was more severe and resulted in increased reported stress by parents and more reported emotional problems in their children. These findings further underscore the negative impacts of lockdown.

Xie and colleagues (2020), explored the impact of lockdown in a study of 2,330 students in grades 2 through 6 in 2 schools in Hubei province. Students were invited to complete a survey among 2,330 students. One thousand seven hundred and eighty-four participants completed the survey, of which 1,012 were boys. Students had been restricted to home lockdown for a mean (SD) of 33.7 days when they completed the survey. The survey link was sent to the child's guardian's cell phone along with consent for the child to participate in the survey. After the guardian gave permission, the students proceeded to complete the survey. Results showed that 22.6% of students had depressive symptoms, which was higher than other primary school investigations during the COVID outbreak in China at 17.2% (Xu et al., 2020). Researchers believed that reducing outdoor activities and social interaction may have contributed to the increase in depressive symptoms. Similarly, 18.9% of students reported anxiety symptoms. The findings suggest that serious infectious diseases that result in lockdown may negatively influence children's emotional health as a result of limited socialization opportunities and prohibition from attending school. The researchers were unable to evaluate whether the participants' difficulties would continue beyond the COVID-19 outbreak. The crisis caused by the COVID-19 virus could, in addition to the immediate impact on children's social and emotional well-being, have far-reaching impacts on children's mental health and in the field of education (Huber & Helm, 2020).

With the COVID-19 outbreak and continuously emerging variants, schools in general and preschools, in particular, have witnessed significant repercussions as a result of the pandemic. The primary purpose of this research study is to investigate the effect of lockdown, engagement with siblings and the impact social isolation has on preschool age children. In addition, the research evaluated alternative learning opportunities provided

during school closures, social engagement with online schooling, and time spent involved in virtual learning. Given the vulnerable situation of children, the aim of this research is to understand how children are socially and emotionally coping with the COVID-19 crisis.

Chapter 3: RESEARCH QUESTIONS AND HYPOTHESES

The following research questions and hypotheses will be explored in this study:

Research Questions 1: Does a greater degree of socialization opportunities through engagement with online schooling (i.e., actively engaged and attentive) correlate with lower traumatic stress reaction and emotional adjustment for preschool children?

Hypothesis 1a: Children who have greater engagement with online schooling will have lower scores on the measure of traumatic stress reaction.

Hypothesis 1b: Children who have greater engagement with online schooling will have less evidence of regressive behavior.

Hypothesis 1c: Children who have greater engagement with online schooling will show better temper and anxiety control.

Research Questions 2: Does a greater degree of socialization through exposure to siblings at home during lockdown correlate with lower traumatic stress reaction and emotional adjustment for preschool age children?

Hypothesis 2a: Children who have greater exposure to siblings will have lower scores on the measure of traumatic stress reaction.

Hypothesis 2b: Children who have greater exposure to older siblings will have less evidence of regressive behavior.

Hypothesis 2c: Children who have greater exposure to older siblings will show better temper and anxiety control.

Chapter 4: METHODOLOGY

Procedure

The current study used data that was collected during the COVID-19 school closures which required enforced social isolation while increasing time spent with family members and the use of alternative educational learning platforms. The current study is an analysis of data collected as part of a larger research project that was submitted to and received IRB approval. The methods below describe the procedures used for the original data collection.

Due to the limited verbal and cognitive skill development of preschool age children, direct observation is generally the preferred method to gather data. With mandated isolation, the only means of gathering information, however, was through the primary caretaker. Caregivers of preschool students, from the ages of 2 to 6, that experienced a state mandated lockdown were asked to respond anonymously through a survey link provided by the directors of participating Jewish preschools within the United States and Canada. The survey instrument, the Preschool Shutdown Experience Survey, was designed for the research project and adapted from existing reliable measures with the authors' permission. The survey included measures of child post-traumatic stress, child social opportunities and interactions, and child behavior and emotional adjustment during the lockdown as well as questions regarding what schools offered and how preschoolers engaged with online learning.

Subjects were recruited at the end of the 2019-2020 school year from various Jewish early childhood director networks in areas that experienced school closures in response to the COVID-19 pandemic. The investigators, through email and phone conversations, explained the research to preschool directors and requested that a link be sent to a digital survey with an

explanation letter (see appendix A) to their parent body. The preschool directors were requested to send a second email to parents (see appendix B), 2 weeks following the first correspondence, to remind parents to complete the survey. The anonymous survey (see appendix C) included demographic information, such as the child's age, child's gender, number of siblings at home, and parent's employment status. Completion of the survey was expected to take an estimated 15 minutes. Parents who were willing to participate in a follow-up interview were given the option to leave their email addresses. The last page of the survey included a completion code that allowed parents to be entered into a drawing for an Amazon gift card by emailing the code to the co-investigator.

The first page of the online survey identified the goal of the study, explained the instructions, described the parameters for participation, and listed the contact information for the primary investigator should participants have any questions. Parents of multiple preschool children were asked to complete the survey using the child's name that came first alphabetically. An explanation of anonymity, confidentiality, and a statement of passive consent was located on the introductory page.

Participants

Data was collected from mid-June to mid-July of 2020. Three hundred and six parents responded, with representation from seven states and the Ontario Province in Canada. The results reported below in Table 1 are for a sample consisting of 291 parents who completed the full survey (83% mothers, 17% fathers). Responses were received from over 65 zip codes, with many from regions with significant Jewish populations, and with over a third of responses from the New York metropolitan area. The regional distribution of responses is presented in Table 2.

Table 1.

Birth Year of Children

Child's Birth Year	Percentage of Responses
2014	27.1
2015	23.5
2016	28.8
2017	17.3
2018	3.3

Responses were collected between June and July of 2020.

Table 2.

Responses by Geographic Region

	Region Sub-region	Number of Responses
California		1
Connecticut		3
Florida		6
Israel		1
New Jersey		38
New York		114
	Long Island	105
	Manhattan	3
	Outer boroughs	6
Ohio		15
Pennsylvania		20
Toronto, Canada		5

The participating parents had children ranging from 2 to 6 years of age at the end of the 2019-2020 school year, all of whom attended a Jewish early childhood program prior to the COVID-19 pandemic. Approximately half of the children were males (48%). The

majority of children resided with both their mother and father living at home (95%), while some had a babysitter or nanny (14%), grandparent (7%), or another relative or family friend (5%) living with the family. The majority of fathers (65%) were relocated to working at home with 44% of mothers relocated to working in the home. Twenty-two percent of fathers and 12% of mothers remained working outside of the home during the time the survey was conducted. Twenty percent of mothers lost their jobs and 12% of fathers were unemployed. While most children had siblings at home, 37% had no younger siblings and 33% had no older siblings at the time of the shutdown.

Measures

In addition to gathering demographic data, several other self-administered caregiver-report questionnaires were utilized. This included items assessing school and sibling interactions, regressive behaviors, the Post-traumatic Stress Disorder Questionnaire for preschool age Children (Levendosky et al., 2002), and the Children's Emotional Adjustment Scale-Preschool version (Thorlacius, & Gudmundsson, 2015).

Engagement in School

Parents were asked, "On a typical day, how long did your child remain actively engaged and attentive during online sessions?" Answers included that online school was *not offered* (0), *less than 15 minutes* (1), *15-30 minutes* (2), *30-60 minutes* (3), and *more than one hour* (4). Higher scores reflected more time spent engaging in online education.

Engagement with Siblings

Parents were asked, "On an average day, during the shutdown, my child played with older siblings" *not at all* (0), *once a week* (1), *2-3 times a week* (2), *4-5 times a week* (3), *daily* (4), or *no older siblings* (0). The same question was also asked about younger siblings.

Higher scores reflected more time spent with siblings. Parents were also asked about the number of siblings at home during the shutdown.

Regressive Behavior

The regressive behavior scale identified eight areas of functioning that describe basic areas of preschool development (e.g., toilet training, sleep, clinginess). See appendix D for a full list of areas. Parents were asked to rate their children by evaluating, "Since the shutdown, I have noticed changes in my preschooler in the following areas." Responses ranged from *a lot better since shutdown* (1), to *no difference since shutdown* (3), to *a lot worse since the shutdown* (5), and items were averaged so that lower scores reflected positive maturational development and higher scores reflected more regressive behaviors.

Traumatic Stress Reaction

The *Post-Traumatic Stress Disorder Questionnaire for Preschool Age Children* (PTSD-PAC) is an 18-item caregiver report that measures PTSD symptoms in young children aged 2-5 based on the DSM-IV criteria for PTSD symptoms (Levendosky, et. al., 2002), with additional items relevant to symptoms of young children's traumatic responses from age 0 to 3 (Scheeringa et al., 1995). The PTSD-PAC screening can be used to detect symptoms and to assist in the identification of children at risk of developing PTSD. The questionnaire is designed to assess stress reactions in children following a potentially traumatic event. The reliability for this scale is alpha = .79 (Levendosky, et. al., 2002). For the current study 17 items were used to ask parents how frequently certain behaviors occurred such as having "nightmares about Covid-19 shutdown" and "gets easily startled" (see appendix E). Items were scored from *never* (1) to *often* (4), and were averaged so that higher scores reflected higher levels of trauma symptoms.

Temper and Anxiety Control

The *Children's Emotional Adjustment Scale–Preschool Version* (CEAS-P) is a behavioral rating scale completed by parents. The scale measures preschoolers' emotional functioning across three competency-based factors: temper control, anxiety control, and social assertiveness. Normally distributed items reflecting healthy emotional development were assigned to the CEAS-P factors, with the focus of capturing common characteristics, behaviors, or competencies among preschoolers. Only the temper and anxiety control items were utilized in this study.

The constructs addressed by the CEAS-P were adapted from the Children's Emotional Adjustment Scale (CEAS) that is a parent-completed scale used to assess 6- to 12- year-olds (Thorlacius & Gudmundsson, 2019). Previous evaluations of the original CEAS have demonstrated adequate internal consistency (α = .92 - .95) and concurrent validity with established measures of child mental health (Thorlacius & Gudmundsson, 2015). Both the CEAS and the CEAS-P were designed to observe normal variability of emotional behavior and competencies of children reflecting healthy or typical emotional development.

In two independent samples, mothers of 231 and 802 children aged 3 to 5 years answered the CEAS-P and the Strengths and Difficulties Questionnaire (SDQ) (Thorlacius, & Gudmundsson, 2019). Scores on the CEAS-P factors were found to have satisfactory reliability (α = .88 - .93) and acceptable concurrent validity with the SDQ. Temper control showed the highest correlation with SDQ Conduct problems (r = −.66), whereas anxiety control evidenced the highest correlation with SDQ Emotional symptoms (r = −.59). The findings suggest that the CEAS-P can be used to measure preschoolers' emotional

competence and may benefit researchers and practitioners examining normal as well as abnormal aspects of child mental health and development.

For the current study, the 5-item temper control scale and the 5-item anxiety control scale were utilized (see appendix F). Parents were asked about how much their child has changed from before the shutdown to their behavior during the shutdown. It included items such as, “has good control of his/her temper” to measure temper control, and “can easily stop thinking about things that scare him or her” to measure anxiety control. Response options ranged from *a lot less than before* (1), to *same as before* (3), to *a lot more than before* (5), and were averaged so that higher scores reflected better temper or anxiety control since the COVID-19 shutdown and lower scores reflected worse temper or anxiety control.

Chapter 5. RESULTS

Power Analysis

Analyses required 80% power to be deemed adequate, using two-tailed tests and a cutoff of $p < .05$. Power was calculated assuming small to medium effect sizes for the analyses in order to assure the ability to detect modest, but not trivial (i.e., very small) effects in the sample. With nearly 300 participants who completed the survey, the current sample size provided adequate power.

Analysis Plan

In order to address Research Question 1, bivariate correlations examined the relation of school engagement with trauma impact, regressive behaviors, and temper and anxiety control. For Research Question 2 bivariate correlations examined the relation of exposure to siblings with traumatic stress reaction, regressive behaviors, and temper and anxiety control.

Screening the Data

All data were entered into SPSS statistical software and screened for any scores that were unusual, out of range, or outliers. Next, primary study variables were considered to determine if they were normally distributed. Although all the variables were roughly normal, one variable was mildly skewed and kurtotic and several variables were kurtotic ($z > 3.29$; Tabachnick & Fidell, 2013). Therefore, all the non-normal variables were transformed, first using a square root transformation, and then using a logarithmic transformation. The normality did not improve for any variable, so the original non-transformed variables were utilized. The one exception was for the number of children parents reported, which was normalized by a square-root transformation, so the transformed variable was used in all

analyses. A few of the variables had univariate outliers so all analyses were run with and without the few outliers. The pattern of results was nearly identical and therefore all data was retained for the analyses.

When looking more closely at the variables measuring time spent playing with younger and older siblings, in addition to being kurtotic, the variables appeared to be somewhat dichotomous in nature. As shown in Table 3, most children either spent no time playing with their younger or older siblings or played with them daily. Rather than treating the two variables as equal interval variables, they were recorded into dichotomous variables indicating either they did not play with younger or older siblings or they did. For those who did not play with siblings, the majority did not have siblings and only a few had siblings but did not play with them. For those who did play with siblings, most parents indicated it was on a daily basis, with only a small group that played less than daily. All analyses that included how much children played with younger or older siblings were changed to treat the two variables as dichotomous, because it better represented the distributional pattern and allowed analyses to be completed without meeting the requirement of normality.

Table 3.

Frequency of Time Spent Playing with Older and Younger Siblings.

	Daily	4-5 Times a Week	2 -3 Times a Week	Once a Week	Not at All	No Siblings at Home
Older Siblings	168 (1.6%)	5 (1.6%)	16 (5.1%)	3 (1.0%)	13 (4.2%)	103 (32.9%)
Younger Siblings	163 (52.1%)	5 (1.6%)	5 (1.6%)	3 (1.0%)	19 (6.1%)	112 (35.8%)

Descriptive Analysis

Descriptive statistics are provided in Table 4 for all study variables. A few patterns were notable. On the measure of being engaged in online programming, no parent reported higher than a 3, which was 30-60 minutes online. That means no student was engaged with online learning for more than an hour. The mean was slightly less than 2, so parents reported that on average preschool age children were engaged somewhere around 15 to 30 minutes a day or less. In addition, on three of the measures of adjustment (i.e., regressive behaviors, anxiety control, and temper control) parents on average reported that the children tended to stay the same, or received a rating of 3, or do just slightly worse than before. On the traumatic stress reaction measure, parents on average reported that children experienced 1.88 which was between never and rarely, suggesting that on average children experienced traumatic stress reactions rarely, if at all. For the number of child siblings in the home during the shutdown the numbers ranged from 0 to 7, with the mean being around two, indicating the average family had three children in the home.

Table 4

Descriptive Statistics for Primary Study Variables

Adjustment Measure	*M*	*SD*	Range	
			Min	Max
Engaged	1.79	.74	1.00	3.00
Number of Siblings*	2.01	1.25	0	7.00
Traumatic Stress Reactions	1.88	.52	1.00	3.47
Regressive Behaviors	3.25	.50	1.38	5.00
Temper Control	2.77	.54	2.00	5.00
Anxiety Control	2.90	.36	2.00	4.25

*Descriptive statistics are presented for the raw variable to aid interpretation, but the square root transformed variable was used for all hypotheses.

Gender Differences

All variables were examined to determine if there were significant differences in scores for the different genders. There were only significant differences in the number of siblings that males and females had, t (284) = 2.010, $p < .05$. Males had more siblings on average. Given there is no reason that gender should be related to how many siblings a child has and that no other variables had gender effects, all analyses were done on the whole group, and not separately by gender.

Correlations

Intercorrelations between the study variables were computed and are presented in Table 5. It should be noted that, as expected, all four measures of adjustment were significantly correlated. The two positive measures, anxiety and temper control were positively correlated with each other and negatively correlated with regressive behaviors and trauma symptoms. Regression and trauma were positively correlated with each other. School engagement and number of siblings were not correlated.

Table 5
Intercorrelation Between Study Variables

Variable	1	2	3	4	5
1. Engagement	-				
2. Number of Siblings	.04	-			
3. Traumatic Stress Reaction	-.14*	-.14*	-		
4. Regression	-.07	-.04	.57**	-	
5. Temper Control	.19*	.06	-.25**	-.40**	-
6. Anxiety Control	.09	.01	-.20**	-.31**	.48**

*$p < .05$ ** $p < .01$

Below the analyses and results to explore each research question are provided.

Research Question 1: Does a greater degree of socialization opportunities through engagement with online schooling (i.e., actively engaged and attentive) correlate with lower traumatic stress reaction and better emotional adjustment for preschool age children?

Hypothesis 1a: Children who have greater engagement with online schooling will have lower scores on the measure of traumatic stress reaction.

Engagement in online school was negatively correlated with level of traumatic stress reaction ($r = -.14$, $p < .05$). Children whose parents reported they were more engaged in school, were more likely to report that their children experienced lower traumatic stress reactions.

Hypothesis 1b: Children who have greater engagement with online schooling will have less evidence of regressive behavior.

Engagement with online schooling was not significantly correlated with regressive behaviors ($r = -.07$).

Hypothesis 1c: Children who have greater engagement with online schooling will show better temper and anxiety control.

Levels of engagement in school were significantly positively correlated with levels of temper control ($r = .19$, $p < .05$). Parents that reported their children were more engaged in online school, reported that their children had better ability to control their temper. No significant correlation was found between engagement and anxiety control ($r = .09$).

Research Questions 2: Does a greater degree of socialization through exposure to siblings at home during lockdown correlate with lower traumatic stress reaction and emotional adjustment for preschool age children?

Hypothesis 2a: Children who have greater exposure to siblings will have lower scores on the measure of traumatic stress reaction.

The number of siblings at home was significantly negatively correlated with levels of traumatic stress reaction ($r = -.14$, $p < .05$). When parents reported that children had more siblings at home, they tended to report that their children experienced lower traumatic stress reactions.

Hypothesis 2b: Children who have greater exposure to older siblings will have less evidence of regressive behavior.

There were no significant differences in regressive behaviors for children who played with older siblings compared to those that didn't, t (277) = -.315, $p = .75$. This analysis was attempted once again on a more restrictive sample comparing just those children with no siblings and those who played with older siblings daily, but the results remained nonsignificant. To ensure these effects did not emerge when playing with younger siblings,

these analyses were executed again comparing those who played with younger siblings with those who did not play with younger siblings, but all results continued to be non-significant.

Hypothesis 2c: Children who have greater exposure to older siblings will show better temper and anxiety control.

There were no significant differences in temper control t (214) = .100, p = .920, and anxiety control t (243) = .343, p = .732, for children who played with older children, compared to those that didn't. This analysis was attempted once again on a more restrictive sample comparing just those with no siblings and those who played with older siblings daily, but the results remained nonsignificant. To ensure these effects did not emerge when playing with younger siblings, these analyses were executed again comparing those who played with younger siblings, but all results continued to be non-significant. Children with greater exposure to siblings, due to a higher number of siblings, demonstrated no significant correlation related to temper control (r = .06) and anxiety control (r = .01).

Exploratory Analysis

Given that the amount of time spent playing with younger or older siblings was not normally distributed, the two variables needed to be dichotomized to compare those who did with those who did not play with siblings. Another possible way to compare the effects of having younger and older siblings was to classify children into four groups, based on the presence or absence of younger and/or older siblings. Four groups were formed: 1) no younger or older siblings, 2) younger siblings only, 3) older siblings only, and 4) both younger and older siblings. This allows for a comparison of outcomes based on which group the child fell into. Table 6 shows the number of children in each of the four groups.

Table 6

Number of Children with No Siblings, Only Older Siblings, Only Younger Siblings, and Both Older and Younger Siblings

No Siblings	Younger Siblings	Older Siblings	Both
17 (5.5%)	86 (28.0%)	95 (30.9%)	109 (35.5%)

There were no significant differences between scores on traumatic stress reaction, regressive behavior, temper control, or anxiety control for any of the four groups. Means and standard deviations are presented in Table 7 for each group on the four measures. Therefore, the presence or absence of younger or older siblings did not seem to relate to adjustment.

Table 7

Descriptive Statistics Children on Four Measures of Adjustment, Based on if They Had No Siblings, Only Older Siblings, Only Younger Siblings, or Both Older and Younger Siblings

				Range	
Adjustment Measure		*M*	*S*	Min	Max
Regressive Behavior	No siblings	3.21	.47	2.63	4.25
	Younger only	3.27	.47	1.88	5.00
	Older only	3.24	.54	1.38	4.50
	Both	3.25	.49	2.00	4.75
Traumatic Stress	No siblings	1.87	.58	1.18	3.47
	Younger only	1.94	.48	1.00	3.35
	Older only	1.87	.56	1.00	3.29
	Both	1.83	.50	1.00	3.41
Temper Control	No siblings	2.64	.64	2.00	3.80
	Younger only	2.78	.58	2.00	3.80
	Older only	2.79	.56	2.00	5.00
	Both	2.78	.45	2.00	4.40
Anxiety Control	No siblings	2.79	.43	2.00	3.75
	Younger only	2.91	.39	2.00	4.00
	Older only	2.93	.34	2.20	4.00
	Both	2.89	.34	2.20	4.25

Chapter 6: DISCUSSION

This study examined the psychological impact of lockdown on preschool children and the relationships between socialization, virtual educational engagement, and adjustment during school closure, and found evidence of both trauma impact and resilience. This discussion will first connect the current findings regarding trauma impact to other related research and will then explore the possible mechanisms explaining how school engagement and sibling socialization may have supported resilience.

Parents' reports of slightly elevated levels of children's regressive behaviors and children's difficulty controlling anxiety and temper in the current study are consistent with emerging data from the first year of the pandemic that suggested a negative impact on children's mental health and well-being, including elevated levels of anxiety, depression, and post-traumatic stress symptoms (Duan et al., 2020; Ravens-Sieberer et al., 2021; Saurabh & Ranjan, 2020; Schmidt et al., 2021). Preschool children may be especially vulnerable to trauma because of their developing cognitive capacities and dependence on caregivers and family members to help process stressful events (De Young & Landolt, 2018; Salmon & Bryant, 2002) thus creating the necessity for further investigations into the impact on this young population. With the current study relying on data collected after the first wave of the pandemic when the most restrictive measures were in place, future research would be necessary to determine whether the trauma impact discovered would continue, deepen, or be ameliorated over time.

Two factors in preschoolers' lives during the shutdown were found to impact their resilience: school engagement and sibling socialization. We will first consider the role of

school engagement, which requires some understanding of the nature of preschool learning in a center-based environment, and the central role of play and social engagement in the classroom. Within the preschool educational environment, students learn and explore through play as teachers create stimulating environments and facilitate engagement. According to Dr. Peter Gray (2013), playing with others enables children to learn to make their own decisions, control their emotions and impulses, see from others' perspectives, negotiate differences, and make friends. During play, attention is focused on the activity itself, which enables children to learn new skills and modify old ones as they engage with the environment. Play is the ideal context for practicing rules and trying out new ways to implement social skills and complete tasks. Vygotsky (1978) argued that play is the primary method children use to learn to abide by socially agreed-upon rules, an ability that is essential in adult life.

During the shutdown, preschool education transitioned to a virtual classroom when available. The amount of time spent on learning activities, playing, and peer interactions each week declined significantly as in-person teaching became unavailable. Families in the current study reported half an hour of school-initiated virtual learning per day on average, as compared to about five hours daily of in-person pre-pandemic schooling. For preschoolers in particular, this would seem to not only affect academic outcomes but the development of social skills and emotional intelligence.

Although research suggests that remote instruction can be as effective as traditional classroom instruction for older students (Cavanaugh, 2021; Johnson, Aragon, & Shaik, 2000; Swan et al., 1990), numerous challenges arose for preschool-age children. The inability to independently manage technology, lack of focus, and limited social interactions during virtual learning sessions raised concerns regarding the consequences of remote-only

instruction. In fact, most preschoolers could not engage in online learning without the assistance of a parent or caregiver. Parental involvement was crucial for young students to successfully access, engage, and maneuver an online learning platform. Parents provided students with emotional and motivational support by encouraging and accompanying them in remote learning and monitoring the children's overall well-being (Knopik et al., 2021), which resulted in increased engagement.

Student engagement has been studied extensively in students from kindergarten to 12th grade and in higher education (McClenny et al., 2021; Zhang et al., 2021), and comparatively less in preschools (Aydoğan et al., 2015). Student engagement can be defined as the amount of attention, interest, curiosity, and positive emotional connections that students have when they are learning, whether in the classroom, virtually, or individually (Sousa, 2016). The correlation between high student engagement and improved academic outcomes has a strong research history (Dyer, 2015). More recently, the Gallup study that involved 128 schools and more than 110,000 students found that student engagement had a significant positive relationship with student academic growth and emotional adjustment (Reckmeyer, 2019).

The current study found that engagement in online learning, despite its limitations, served as a protective factor during the COVID-19 lockdown and contributed to less psychological distress for preschool children. Students that consistently engaged in virtual learning sessions tended to show better emotional adjustment. The benefits of engagement included both lower rates of traumatic stress reaction and higher rates of temper control.

The pandemic abruptly disrupted daily life, causing uncertainties and stress in young children. Research has shown that routines are important for helping children and families

manage stress, anxiety, and temper control (Goodwin et al., 2020; Hou et al., 2020; Spagnola & Fiese, 2007). Online learning established a predictable structure and routine back into the disrupted daily schedule that resulted from school closures. Programs that combined live sessions with independent learning activities helped children establish a consistent routine that had many benefits for children from developing independence to offering security and stability (Bansak & Starr, 2021; Imran et al., 2020).

Research has shown that routines help children manage their emotions and control their temper during times of distress. Routines allow children to feel safe and develop life skills while building healthy habits that enable them to manage their emotional state. Although regulating emotions and managing behavior are skills that develop slowly over time during childhood, during times of distress and uncertainty, children need extra support and consistency to regulate their emotional states. The routines that resulted from online school engagement and parental support during learning sessions would have provided the ingredients necessary to enable children to manage their tempers during the pandemic.

Online learning programs provided opportunities for children to interact with their teachers and peers. Maintaining a social peer group and a sense of belonging to their school community nurtured preschool children's confidence and social connections, and lowered experiences of traumatic stress (Cherry, 2020). Additionally, online learning programs that encourage parent participation helped to foster the parent-child relationship and enabled parents to continue to support their child's peer connections outside of the virtual classroom. These interactions were critical for nurturing children's social and emotional development and stress reduction during the COVID-19 outbreak.

Virtual classrooms required the adults at home to be more involved in children's education. While children took online classes at home, parents, caregivers, and older siblings were required to assist during educational sessions and supervise children's use of electronic products at home (Szente, 2020). The adult assistance provided support and connection during times of distress while easing the problems that arose and helped students to remain focused.

In the current study, school engagement and parent engagement were almost identical. As to whether student engagement or parental involvement overseeing engagement caused lower traumatic impact and higher rates of temper control is beyond the scope of this research study. If and when preschools use remote instruction in the future, schools must do so in a way that maximizes the likelihood that parents can support engagement.

The other significant finding in the current study was the relationship between socialization with siblings and lower trauma impact. The globally imposed lockdown prevented children from entering school facilities and restricted in-person social interactions, thus leaving parents and the family unit as the stabilizing system in charge of protecting children and supporting their resilience and development. During the lockdown, interactions between family members helped improve children's self-sufficiency skills, enabled children to meet their psychological needs, and strengthened family bonds (Mehta et al., 2020).

In early childhood, close contact coupled with social-emotional interactions cultivates the development of social understanding (Dunn, 1998). Sibling interactions play an integral role in childhood growth and promote social-emotional development. With the mandated isolation from protective adults outside of the home (i.e., teachers and grandparents), the sibling relationship may have been an important way to successfully cope with potential

stressors (Prime, Wade & Browne, 2020). During the shutdown, the predominant socialization and in-person play opportunities for preschoolers involved siblings.

Engaging with siblings has been shown to be a powerful tool that reduces feelings of isolation and safeguards against the negative effect of traumatic life events (Gass, Jenkins, & Dunn, 2007). In the current study, children with greater engagement with siblings experienced less post-traumatic stress. With more siblings at home, children had greater opportunities to play and socialize throughout their day. These results are in line with recent studies that show children exposed to psychological distress and conflict are better adjusted if they have positive relationships with their siblings (Davies et al., 2019; Edwards, 2020; Masten & Motti-Stefanidi, 2020).

Siblings provide friendship, entertainment, and support while fostering the development of prosocial behaviors such as helping, turn-taking, and sharing (Abramovitch, Corter, & Lando, 1979; Brody et al., 1985; Buhrmester & Furman, 1987). During lockdown, sibling relationships provided an important context for positive socialization as well as created opportunities for conflict resolution. Both negative and positive aspects of sibling interactions are related to adjustment during a traumatic event like a global pandemic, suggesting that the equilateral and sometimes conflictual nature of sibling interactions can provide opportunities to learn negotiation skills, affect regulation, and behavioral control. Although the current research shows that sibling engagement decreased trauma reactions; regression, anxiety control, and temper control were not impacted. The presence of sibling support may temper the effects of conflict, such that moderate levels of sibling conflict in the context of support may be related to neutral indexes of adjustment. Perhaps conflictual exchanges and emotional control between siblings are less noticeable to parents in the midst

of a disease outbreak and lockdown, particularly given that parents with high levels of stress are less likely to monitor or supervise their children's behavior (Patterson & Stouthamer-Loeber, 1984).

With parental stress and the environmental changes that resulted from the pandemic, overcoming stressors while stabilizing emotionally and psychologically during times of distress required the development of resilience. Proper support by the systems that surround children, such as families, social connections, and virtual schools (Pettoello-Mantovani et al., 2019) enabled families to endure the novelties that resulted from the COVID-19 outbreak. Children develop resilience to challenging events by experiencing substantial changes to daily routines and social infrastructures (Danese et al., 2020) accompanied by support to maneuver and overcome the challenges. The positive impact of family (e.g. siblings) and school engagement was clearly seen in the current study.

In conclusion, the results of this study provide new information and also suggest methods for preventive measures by parents and educators to mitigate the psychological effects of the pandemic on children. Some preventative measures include establishing a routine that factors in age-appropriate education programs that utilize learning opportunities provided by the school, internet-based resources, and educational programs on television. In addition to educational engagement, parents should factor in time for playing and reading throughout the daily routine. Many household activities can be used as learning opportunities for children, i.e., meal planning, following recipes, scheduling daily activities, and household chores.

Parents can support their child’s social-emotional health by encouraging children to ask questions and express their feelings openly. Shared positive emotional experiences

between caregivers and children serve as building blocks for the development of social and emotional well-being and adjustment (Bagdi & Vacca, 2005). Although preschool children may have different reactions to stress, they can work through those reactions with play, storytelling, and artistic expression. By using different avenues, parents can help children both share their feelings and concerns and find solutions.

Within a quarantined household, siblings are another rich resource for social-emotional health through social engagement. There exists a wide body of research suggesting that sibling social connectedness is a protective factor against experiences of childhood traumatic stress, as well as a means of promoting healthy behavior (Belsky et al., 2005; Caliso & Milner, 1992; Egeland, Jacobvitz, & Sroufe, 1988). Parents can facilitate sibling engagement by identifying activities that siblings could do together. When siblings argue, parents should encourage problem-solving and support siblings in finding their own solutions. Parents can help siblings understand what the other person might be feeling and learn how to talk through conflict, which builds the important skill of empathy.

In light of the continuous COVID variant resurgence and the ongoing precautionary measures, the current research has continued relevance. In a report on May 13, 2020, the United Nations stated that during the COVID-19 pandemic, the emotional problems of children and adolescents were exacerbated by family stress, social isolation, interruption of school and educational activity, and uncertainty for the future which occurred in critical moments of their emotional development (United Nations, 2020). As a result of the related restrictions and past school closures, educators are concerned that students will face long-term effects of social isolation and psychological distress (Bignardi et al., 2021; Morelli et al., 2020; Spinelli et al. 2020). Understanding how to leverage the strength that families and

the educational system possess in times of adversity represents an important goal for future pandemics and other traumas (Cluver et al., 2020). To address these profound challenges, schools and other organizations must continue to find new ways to help physically isolated youth and families forge and maintain social ties. In open-ended questions in the survey used for the current study, some parents commented on the power of personal phone calls and visits from teachers. Such contact and connection, while challenging to provide, can have a strong impact on limiting post-trauma outcomes.

Limitations and Recommendations for Future Research

Although the current study has presented some interesting results, it is affected by certain limitations. This is a retrospective cross-sectional study and therefore provides a one-time glimpse of participants in a particular and unique situation. The temporal link between the long-term psychological impact of the COVID-19 lockdown mandates and the exposure to stressors and protective factors (i.e., virtual engagement, sibling interaction, and parental support) cannot be determined because both were examined at the same time and lack the continuity that a longitudinal study would provide.

Pragmatically and ethically, it would be impossible to randomly assign children to trauma and non-trauma exposed lockdown groups. There was no way to control trauma exposure since the pandemic was on a global scale. Due to the nature of the circumstances, it was impossible to control the severity of the mandates, length of quarantine, exposure to illness and death, and other factors that may be associated with the outcome.

The current study consisted entirely of preschool age children in private Jewish early childhood settings. The ethnic background and socioeconomic population that attends private Jewish preschools allow understanding of a particular population but might limit

generalizability. Further studies should attempt to employ larger samples of ethnically diverse populations in order to determine greater generalizability.

Future longitudinal studies will enable researchers to understand the extent to which early childhood development and social-emotional health were impacted by the pandemic stressors. It would be interesting to determine whether or not the emotional adjustment of preschoolers continued to deteriorate over time or improved once the precautionary mandates were lifted and children returned to pre-pandemic conditions. In addition, teachers' input would provide a more objective third-party perspective. Parents that experienced the stress and trauma of a lockdown and possible unemployment might have a more subjective view of their child's trauma experience and emotional adjustment.

There are major gaps in our understanding of how children's brains develop after being exposed to long-term adversity and global social isolation. It would be interesting to assess the long-term impact of the safety precautions specifically implemented to prevent the spread during the pandemic including social distancing, school closures, and mask wearing. Future research should assess the impact of post-traumatic stress exposure as a crisis unfolds and on future social development. For example, it would be interesting to compare social skills before and after the pandemic to understand the long-term impact of social isolation and lockdown imposed post-traumatic stress, and to track the ongoing benefits of some of the ameliorating factors identified in this study. Further consideration of the elements that enabled student adjustment (i.e., parental support, family dynamics in the home, and the type of sibling engagement) or lack of adjustment might provide keys to creating protective factors to ensure better outcomes during future adversities.

The current study used a single limited question to explore school engagement. Further research examining school bonding, school climate, school involvement, teacher support, and school connectedness during school closures would enable a deeper understanding of the protective factors of online school engagement within a pandemic. Measures assessing attendance, preparedness for class, and teachers' reports of student engagement would provide additional valuable information.

Another limitation included the type of trauma and sibling engagement assessments included in the study. The trauma response scale may not have been sensitive enough to denote meaningful differences in symptom display. Similarly, more detailed measures of sibling engagement would provide information about the quality of interactions, the nature of sibling exchanges, and determine how sibling relationships fared during the lockdown. It would be interesting to see whether the sibling relationships remained the same after the children returned to school and had access to their peers and social circles.

The research occurred before the mandated lockdown was lifted which may have impacted the way parents perceived their child's behavior. Fear of infection, unemployment, loss of childcare, and the uncertainty of the future may have influenced parental view of the current situation. In addition, parents were not assessed to determine if they personally experienced illness, loss of a loved one, or financial loss. The parents' own psychological state may have also influenced how they answered the survey questions.

Implications

Given that experiences of trauma and post-traumatic stress in childhood have profound implications on child development, it is important that mental health professionals, educators, policymakers, and parents understand the developmental implications of

lockdown and social isolation and identify any and all protective factors. The COVID-19 pandemic has been shown to be a complex circumstance with far-reaching effects that entail repeated lockdowns for individuals and families. It is therefore essential to continue this type of investigation and to conduct longitudinal studies to understand more accurately the adaptation of children and their adjustment strategies during times of extreme stress and uncertainty.

There is a strong movement in education to leverage what we learned during COVID about the value of online learning and the ability to bridge academic gaps. It may be true that for elementary and higher levels of learning, online learning platforms provided an optimal alternative to in-person learning. In contrast, virtual learning cannot replace or become the gold standard choice for education at the preschool level due to the nature of learning through play and the necessity of social interactions that are critical for this age group. There may be times that the educational community is resigned to implement online learning, but virtual learning is not the ideal platform for young children. Therefore, transitioning preschool age children to online platforms must be done with caution.

Since the brain is particularly sensitive to environmental inputs and stressors (Nelson & Bosquet, 2000; Black et al., 2017), research suggests the importance of maintaining a consistent structure to give children a feeling of security and predictability during stressful times. The current study showed preschool age students demonstrated better adjustment with consistent online engagement during the duration of home isolation. Consistency coupled with adult interactions is essential for young learners to adjust within traumatic situations. Therefore early childhood programs should encourage parental involvement with online

engagement during times where virtual learning is necessary and the only viable learning option.

In this research parental engagement and school engagement were confounded because preschoolers require parental support to login the computer, remain focused during virtual learning, and reconnect to virtual platforms in the event of a disconnection. Future research needs to tease out the degree to which the online school environment or parental support played a role in child adjustment during the lockdown and social isolation period.

Siblings provided an alternative protective factor in addition to parental engagement. The relationship between siblings during the shutdown period was a proxy for socialization. If siblings were available at home, the child had the option of interacting with someone other than adults. The findings of this study speak to the importance of socialization in children's lives. Some families were equipped with siblings that served as a socialization agent. Families that lacked sibling interactions due to no siblings or siblings that were not residing in the home would need to look for alternative avenues to fulfill their child's need for socialization. This study shows the critical role socialization plays as a moderator of trauma for young children.

The findings of the current study may be relevant not only in mass trauma situations but for individual illnesses or developmental crises that necessitate a child to be homebound or isolated. Even as medical or other situations require that people stay home and socially distance themselves from families and friends, helping to offer alternative socialization opportunities and support those found in the home would benefit children on a social-emotional level.

Conclusion

Bronfenbrenner's ecological systems theory recognizes the power of multiple systems that impact children's development and functioning. The Covid-19 pandemic and required shut-down clearly impacted every level of children's ecosystems and understanding its impact on child outcomes is critical. The current study of parental reports of preschool children in the months following the initial shutdown confirmed that social interaction and engagement with virtual learning assisted preschool children's adjustment. The findings also highlighted some potential protective mechanisms resulting from increased sibling interaction and online learning engagement supported by a parent. The quantity and quality of the interaction in relation to the age and number of siblings may need to be investigated further. In general, findings that were contrary to expectations, i.e., minor experiences of emotional distress in such a novel time in history, suggest the need to use a larger diverse sample over an extended period of time. Above all, the current findings point to the importance of fostering a sense of connectedness for preschoolers to school, home, and peers during stressful and uncertain times.

REFERENCES

Abramovitch, R., Corter, C, & Lando, B. (1979). Sibling interaction in the home. *Child Development, 50,* 997-1003.

Adams, R. E., & Boscarino, J. A. (2006). Predictors of PTSD and delayed PTSD after disaster: The impact of exposure and psychosocial resources. *The Journal of Nervous and Mental Disease*, *194*(7), 485.

American Psychiatric Association. (2013). *DSM-IV: Diagnostic and statistical manual of mental disorders.*(5th ed.). Arlington, VA: American Psychiatric Association.

American Psychiatric Association. (1980). *DSM-IV: Diagnostic and statistical manual of mental disorders. (*3rd ed.). Washington, DC: American Psychiatric Association.

Anderson, L. M., Shinn, C., Fullilove, M. T., Scrimshaw, S. C., Fielding, J. E., Normand, J., Carande-Kulis, V.G., & Task Force on Community Preventive Services. (2003). The effectiveness of early childhood development programs: A systematic review. *American Journal of Preventive Medicine*, *24*(3), 32-46.

Atiles, J. T., Almodóvar, M., Chavarría Vargas, A., Dias, M. J., & Zúñiga León, I. M. (2021). International responses to COVID-19: challenges faced by early childhood professionals. *European Early Childhood Education Research Journal*, *29*(1), 66-78.

Auger, K. A., Shah, S. S., Richardson, T., Hartley, D., Hall, M., Warniment, A., Timmons, K., Bosse, D., Ferris, S. A., Brady, P. W., Schondelmeyer, A. C., & Thomson, J. E. (2020). Association between statewide school closure and COVID-19 incidence and mortality in the US. *Jama*, *324*(9), 859-870.

Avi Chai Foundation. (2019). A census of Jewish day schools in the United States 2018-2019. Retrieved December 26, 2021 from https://avichai.org/wp-content/uploads/2019/11/AVI-CHAI-Census-2018-2019-v3.pdf

Aydoğan, C., Farran, D. C., & Sağsöz, G. (2015). The relationship between kindergarten classroom environment and children's engagement. *European Early Childhood Education Research Journal*, *23*(5), 604-618.

Baarendse, P. J., Counotte, D. S., O'donnell, P., & Vanderschuren, L. J. (2013). Early social experience is critical for the development of cognitive control and dopamine modulation of prefrontal cortex function. *Neuropsychopharmacology*, *38*(8), 1485-1494.

Bagdi, A., & Vacca, J. (2005). Supporting early childhood social-emotional well being: The building blocks for early learning and school success. *Early Childhood Education Journal*, *33*(3), 145-150.

Bandura, A., & Walters, R. H. (1963). *Social learning and personality development.* New York: Holt, Rinehart, & Winston.

Bansak, C., & Starr, M. (2021). Covid-19 shocks to education supply: how 200,000 US households dealt with the sudden shift to distance learning. *Review of Economics of the Household*, *19*(1), 63-90.

Bao, X., Qu, H., Zhang, R., & Hogan, T. P. (2020). Modeling reading ability gain in kindergarten children during COVID-19 school closures. *International Journal of Environmental Research and Public Health, 17*(17), 6371.

Beck, P. (2002). *Jewish preschools as gateways to Jewish life: A survey of Jewish preschool parents in three cities*. CAJE.

Belsky, J., Jaffee, S. R., Sligo, J., Woodward, L., & Silva, P. A. (2005). Intergenerational transmission of warm-sensitive-stimulating parenting: A prospective study of mothers and fathers of 3 year olds. *Child Development, 76*, 384–396.

Bignardi, G., Dalmaijer, E. S., Anwyl-Irvine, A. L., Smith, T. A., Siugzdaite, R., Uh, S., & Astle, D. E. (2021). Longitudinal increases in childhood depression symptoms during the COVID-19 lockdown. *Archives of Disease in Childhood*, *106*(8), 791-797.

Black, M. M., Walker, S. P., Fernald, L. C. H., Andersen, C. T., DiGirolamo, A. M., Lu, C., McCoy, D. C., Fink, G., Shawar, Y. R., Shiffman, J., Devercelli, A. E., Wodon, Q. T., Vargas-Barón, E., & Grantham-McGregor, S. (2017). Early childhood development coming of age: Science through the life course. *The Lancet*, *389*(10064), 77– 90.

Bowman, B. T., Donovan, M. S., & Burns, M. S. (2001). *Eager to learn: Educating our preschoolers.* Washington, DC: Committee on Early Childhood Pedagogy, Commission on Behavioral and Social Sciences and Education.

Brody, D. (2018). Constructing Early Childhood Curriculum and Assessing Young Children in Israel's Mosaic of Cultures. In *International Handbook of Early Childhood Education* (pp. 1191-1210). Springer, Dordrecht.

Brody, G. H., Stoneman, Z., MacKinnon, C. E., &L MacKinnon, R. (1985). Role relationships and behavior between preschool-aged and school-aged sibling pairs. *Developmental Psychology, 21*, 124-129.

Bronfenbrenner, U. (1977). Toward an experimental ecology of human development. *American Psychologist, 32*, 513–531.

Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature*

and design. Cambridge, MA: Harvard University Press.

Bronfenbrenner, U., & Morris, P. A. (1998). The ecology of developmental processes. *Handbook of Child Psychology*, *1*(5), 993-1028.

Buchanan, H. (2017). Coping Styles in Children. In *Dental Fear and Anxiety in Pediatric Patients* (pp. 43-56). Springer, Cham.

Buhrmester, D., & Furman, W. (1987). The development of companionship and intimacy. *Child Development, 58*, 1101-1113.

Caliso, J. A., & Milner, J. S. (1992). Childhood history of abuse and child abuse screening. *Child Abuse and Neglect, 16*, 647–659.

Camilli, G., Vargas, S., Ryan, S., & Barnett, W. S. (2010). Meta-analysis of the effects of early education interventions on cognitive and social development. *Teachers College Record*, *112*(3), 579-620.

CASJE. (2020). Exping associations between Jewish early care, education and engagement. Retrieved December 26, 2021, from https://www .casje.org/sites/default/files/docs/casje_final_reportjune2020.pdf

Cassinat, J. R., Whiteman, S. D., Serang, S., Dotterer, A. M., Mustillo, S. A., Maggs, J. L., & Kelly, B. C. (2021). Changes in family chaos and family relationships during the COVID-19 pandemic: Evidence from a longitudinal study. *Developmental Psychology, 57*(10), 1597.

Cavanaugh, C. S. (2001). The effectiveness of interactive distance education technologies in K-12 learning: A meta-analysis. *International Journal of Educational Telecommunications*, *7*(1), 73-88.

Center for Disease Control and Prevention. (2020). Coronavirus disease 2019 (COVID-

19). Retrieved on October 18, 2020 from https://www.cdc.gov/coronavirus/2019-ncov/cdcresponse/about-COVID-19.html.

Center for Disease Control and Prevention. (2004). Fact Sheet: Basic Information about SARS. Retrieved October 29, 2020 from https://www.cdc.gov/sars/about/fs-SARS.pdf.

Cherry, K. (2020). The importance of maintaining structure and routine during stressful times. *Pridobljeno*, *22*(6), 2021.

Cluver, L., Lachman, J. M., Sherr, L., Wessels, I., Krug, E., Rakotomalala, S., Bright, S., Hillis, S., Bachman, G., Butchart, A., & McDonald, K. (2020). Parenting in a time of COVID-19. *Lancet*, *395*(10231).

Cohen, S. M., & Liebman, C. S. (2019). The quality of American Jewish life. In *American Jewish Year Book 2018* (pp. 3-49). Springer, Cham.

Connolly, J. A., Doyle, A. B., & Reznick, E. (1988). Social pretend play and social interaction in preschoolers. *Journal of Applied Developmental Psychology*, *9*(3), 301-313.

Costa, N. M., Weems, C. F., & Pina, A. A. (2009). Hurricane Katrina and youth anxiety: The role of perceived attachment beliefs and parenting behaviors. *Journal of Anxiety Disorders, 23,* 935-941.

Danese, A., Smith, P., Chitsabesan, P., & Dubicka, B. (2020). Child and adolescent mental health amidst emergencies and disasters. *The British Journal of Psychiatry*, *216*(3), 159-162.

Darling, N. (2007). Ecological systems theory: The person in the center of the circles. *Research in Human Development*, *4*(3-4), 203-217.

Davies, P. T., Parry, L. Q., Bascoe, S. M., Martin, M. J., & Cummings, E. M. (2019). Children's vulnerability to interparental conflict: The protective role of sibling relationship quality. *Child Development, 90*, 2118 –2134.

De Bellis, M. D. (2001). Developmental traumatology: The psychobiological development of maltreated children and its implications for research, treatment, and policy. *Development and Psychopathology*, *13*(3), 539-564.

Denham, S. A., Ferrier, D. E., & Bassett, H. H. (2020). Preschool teachers' socialization of emotion knowledge: Considering socioeconomic Risk. *Journal of Applied Developmental Psychology*, *69*, 101160.

Deutsch, M. (1964). Facilitating development in the pre-school child: social and psychological perspectives. *Merrill-Palmer Quarterly of Behavior and Development*, *10*(3), 249-263.

De Young, A. C., & Landolt, M. A. (2018). PTSD in children below the age of 6 years. *Current Psychiatry Reports*, 20(11).

Dong, C., Cao, S., & Li, H. (2020a). Young children's online learning during COVID-19 pandemic: Chinese parents' beliefs and attitudes. *Children and Youth Services Review*, *118*, 105440.

Dong, Y., Mo, X., Hu, Y., Qi, X., Jiang, F., Jiang, Z., & Tong, S. (2020b). Epidemiology of COVID-19 among children in China. *Pediatrics*, *145*(6).

Donohue, J. M., & Miller, E. (2020). COVID-19 and school closures. *Jama, 324*(9), 845-847.

Dreesen, T., Akseer, S., Brossard, M., Dewan, P., Giraldo, J. P., Kamei, A., Mizunoya, S, & Ortiz, J. S. (2020). Promising practices for equitable remote learning: Emerging

lessons from COVID-19 education responses in 127 countries. Retrieved July 13, 2021 from unicef-irc.org.

Duan, L., Shao, X., Wang, Y., Huang, Y., Miao, J., Yang, X., & Zhu, G. (2020). An investigation of mental health status of children and adolescents in china during the outbreak of COVID-19. *Journal of Affective Disorders*, *275*, 112-118.

Dunn, J. (1998). Siblings, emotion, and the development of understanding. *Intersubjective Communication and Emotion in Early Ontogeny: Studies in Emotion and Social Interaction*, 158-168.

Dyer, K. (2015). Research proof points: Better student engagement improves student learning. *Teach. Learn. Grow. The Education Blog.* Retrieved May, 16, 2022, from https://www.nwea.org/blog/2015/research-proof-points-better-student-engagement -improves-student-learning/.

Dyregrov, A., & Yule, W. (2006). A review of PTSD in children. *Child and Adolescent Mental Health*, *11*(4), 176-184.

Edwards, C. (2020). How quarantine has brought my family closer together. The New Family Resilience in COVID-19. Retrieved May 19, 2022 from https://www.nytimes.com /2020/05/26/parenting/coronavirus-familyquarantine.html

Egeland, B., Jacobvitz, D., & Sroufe, L. A. (1988). Breaking the cycle of abuse. C*hild Development, 59*, 1080–1088.

Elliott, S., & Davis, J. M. (2020). Challenging taken-for-granted ideas in early childhood education: A critique of Bronfenbrenner's Ecological Systems Theory in the age of post-humanism. *Research Handbook on ChildhoodNature: Assemblages of Childhood and Nature Research*, 1119-1154.

Elsakka, E. E. (2021). The impact of coronavirus disease (COVID-19) pandemic and lockdown on quality of life of healthy school aged children and adolescents. *Alexandria Journal of Pediatrics*, *34*(2), 164.

Erickson, R. J. (1985). Play contributes to the full emotional development of the child. *Education*, *105*(3).

Fegert, J. M., Vitiello, B., Plener, P. L., & Clemens, V. (2020). Challenges and burden of the Coronavirus 2019 (COVID-19) pandemic for child and adolescent mental health: a narrative review to highlight clinical and research needs in the acute phase and the long return to normality. *Child and adolescent psychiatry and mental health*, *14*(1), 1-11.

FEMA. (2021). COVID-19 disaster declaration. Retrieved May 31, 2021 from https://www.fema.gov/disasters/coronavirus/disaster-declarations.

Gao, X., Xing, S., & Zhao, J. (2016). Parental psychological control and the relationship With children's psychosocial functioning. *Advances in Psychological Science, 24*(11), 1792.

Garbe, A., Ogurlu, U., Logan, N., & Cook, P. (2020). Parents' Experiences with Remote Education during COVID-19 School Closures. *American Journal of Qualitative Research*, *4*(3), 45-65.

Garon, N., Bryson, S. E., & Smith, I. M. (2008). Executive function in preschoolers: a review using an integrative framework. *Psychological Bulletin*, *134*(1), 31.

Gass, K., Jenkins, J., & Dunn, J. (2007). Are sibling relationships protective? A longitudinal study. *Journal of Child Psychology and Psychiatry, 48*, 167–175.

Giallonardo, V., Sampogna, G., Del Vecchio, V., Luciano, M., Albert, U., Carmassi, C.,

Carrà,G., Cirulli, F., Dell'Osso, B., Nanni, M. G., Pompili, M., Sani, G., Tortorella, A., Volpe, U., & Fiorillo, A. (2020). The Impact of Quarantine and Physical Distancing Following COVID-19 on Mental Health: Study Protocol of a Multicentric Italian Population Trial. *Frontiers in Psychiatry*, *11*, 533.

Goldschmidt, K. (2020). The COVID-19 pandemic: Technology use to support the wellbeing of children. *Journal of Pediatric Nursing*, *53*, 88.

Goodman, L. D. (2010). JECEI Family Engagement Model.

Goodwin, R., Sugiyama, K., Sun, S., Aida, J., & Ben-Ezra, M. (2020). Psychological distress after the Great East Japan Earthquake: two multilevel 6-year prospective analyses.*The British Journal of Psychiatry*, *216*(3), 144-150.

Gordon, A. M., & Browne, K. W. (2016). *Beginnings & beyond: Foundations in early childhood education*. Cengage learning.

Grant, L. D., & Schuster, D. T. (2011). Adult Jewish learning: The landscape. In *International Handbook of Jewish Education* (pp. 669-689). Springer, Dordrecht.

Gray, P. (2013). *Free to learn: Why unleashing the instinct to play will make our children happier, more self-reliant, and better students for life*. New York, NY: Basic Books.

Hamblen, J., & Barnett, E. (2014). PTSD in children and adolescents. *National Center for PTSD, in www. ncptsd. org*.

Hawryluck, L., Gold, W. L., Robinson, S., Pogorski, S., Galea, S., & Styra, R. (2004). SARScontrol and psychological effects of quarantine, Toronto, Canada. *Emerging Infectious Diseases*, *10*(7), 1206.

Hol, T., Van den Berg, C. L., Van Ree, J. M., & Spruijt, B. M. (1999). Isolation during

the play period in infancy decreases adult social interactions in rats. *Behavioral Brain Research*, *100*(1-2), 91-97.

Hou, W. K., Liu, H., Liang, L., Ho, J., Kim, H., Seong, E., ... & Hall, B. J. (2020). Everyday life experiences and mental health among conflict-affected forced migrants: a meta-analysis. *Journal of Affective Disorders*, *264*, 50-68.

Howes, C. (1983). Patterns of friendship. *Child Development*, 1041-1053.

Howes, C., Burchinal, M., Pianta, R., Bryant, D., Early, D., Clifford, R., & Barbarin, O. (2008). Ready to learn? Children's pre-academic achievement in pre-kindergarten programs. *Early Childhood Research Quarterly*, *23*(1), 27-50.

Howes, C., & Matheson, C. C. (1992). Sequences in the development of competent play with peers: Social and social pretend play. *Developmental Psychology*, *28*(5), 961.

Hsieh, K. Y., Kao, W. T., Li, D. J., Lu, W. C., Tsai, K. Y., Chen, W. J., Chou, L. S., Huang, J. J., Hsu, S. T.,& Chou, F. H. C. (2020). Mental health in biological disasters: from SARS to COVID-19. *International Journal of Social Psychiatry*, 0020764020944200.

Huber, S. G., & Helm, C. (2020). COVID-19 and schooling: evaluation, assessment and accountability in times of crises—reacting quickly to explore key issues for policy, practice and research with the school barometer. *Educational Assessment, Evaluation and Accountability*, 1-34.

Imran, N., Zeshan, M., & Pervaiz, Z. (2020). Mental health considerations for children & adolescents in COVID-19 Pandemic. *Pakistan journal of medical sciences*, *36*(COVID19-S4), S67.

Johnson, S. D., Aragon, S. R., & Shaik, N. (2000a). Comparative analysis of learner satisfaction and learning outcomes in online and face-to-face learning environments. Journal of Interactive Learning Research, 11(1), 29-49.

Johnson, C., Ironsmith, M., Snow, C. W., & Poteat, G. M. (2000b). Peer acceptance and social adjustment in preschool and kindergarten. *Early Childhood Education Journal*, *27*(4), 207-212.

Kessler, R. C. (2000). Posttraumatic stress disorder: the burden to the individual and to society. *Journal of Clinical Psychiatry*, *61*, 4-14.

Kochanska, G., Murray, K. T., & Harlan, E. T. (2000). Effortful control in early childhood: continuity and change, antecedents, and implications for social development. *Developmental Psychology*, *36*(2), 220.

Kostelnik, M., Whiren, A., Soderman, A., Rupiper, M. L., & Gregory, K. (2014). *Guiding children's social development and learning*. Cengage Learning.

Knopik, T., Błaszczak, A., Maksymiuk, R., & Oszwa, U. (2021). Parental involvement in remote learning during the COVID-19 pandemic—Dominant approaches and their diverse implications. *European Journal of Education*, *56*(4), 623-640.

Krafft, K. C., & Berk, L. E. (1998). Private speech in two preschools: Significance of open-ended activities and make-believe play for verbal self-regulation. *Early Childhood Research Quarterly*, *13*(4), 637-658.

La Paro, K. M., & Pianta, R. C. (2000). Predicting children's competence in the early school years: A meta-analytic review. *Review of Educational Research*, *70*(4), 443-484.

Levendosky, A. A., Huth-Bocks, A. C., Semel, M. A., & Shapiro, D. L. (2002). Trauma

symptoms in preschool age children exposed to domestic violence. *Journal of Interpersonal Violence, 17*(2), 150–164.

Levisohn, J. A. (2013). Rethinking the education of cultural minorities to and from assimilation: A perspective from Jewish education. *Diaspora, Indigenous, and Minority Education*, *7*(1), 54-68.

Levites, A., (2020). What will happen to Jewish preschools and the teachers our children love? Retrieved December 26, 2020 from https://www.casje.org/news/ what-will-happen- jewish-preschool-and-teachers-our-children-love

Liu, F., Black, E., Algina, J., Cavanaugh, C., & Dawson, K. (2010). The validation of one parental involvement measurement in virtual schooling. *Journal of Interactive Online Learning, 9*(2), 105–132

Lutton, L. (2020). Coronavirus case numbers in the United States: April 30 update. Retrieved on October 18, 2020 from https://www.medicaleconomics.com /view/coronavirus-case-numbers-United-states-april-30-update

MacIntyre, P. D., Gregersen, T., & Mercer, S. (2020). Language teachers' coping strategies during the Covid-19 conversion to online teaching: Correlations with stress, wellbeing and negative emotions. *System*, *94*, 102352.

Masten, A. S., & Motti-Stefanidi, F. (2020). Multisystem resilience for children and youth in disaster: Reflections in the context of COVID-19. *Adversity and Resilience Science*, *1*(2), 95-106.

May, C. L., & Wisco, B. E. (2016). Defining trauma: How level of exposure and proximity affect risk for posttraumatic stress disorder. *Psychological Trauma: Theory, Research, Practice, and Policy*, *8*(2), 233.

McClenney, K., Marti, C. N., & Adkins, C. (2012). Student engagement and student outcomes: Key findings from. *Community College Survey of Student Engagement*.

Mehta, N., Mytton, O., Mullins, E., Fowler, T., Falconer, C., Murphy, O., Langenberg, C., Jayatunga, W., Eddy, D., & Nguyen-Van-Tam, J. S. (2020). SARS-CoV-2 (COVID-19): What do we know about children? A systematic review. *A Systematic Review (3/18/2020)*.

Morelli, M., Cattelino, E., Baiocco, R., Trumello, C., Babore, A., Candelori, C., & Chirumbolo, A. (2020). Parents and children during the COVID-19 lockdown: The influence of parenting distress and parenting self-efficacy on children's Emotional well-being. *Frontiers in Psychology*, *11*, 2584.

National Research Council. (2000). *From neurons to neighborhoods: The science of early childhood development.* Retrieved on February 10, 2021 from https://files.eric.ed.gov/fulltext/ED446866.pdf

Nelson, C. A., & Bosquet, M. (2000). Neurobiology of fetal and infant development: Implications for infant mental health.

Nijhof, S. L., Vinkers, C. H., van Geelen, S. M., Duijff, S. N., Achterberg, E. M., Van Der Net, J., Veltkamp, R.C., Grootenhuis, M.A., van de Putte, E.M., Hillegers, M.H., van der Brug, A.W., & Lesscher, H. M. (2018). Healthy play, better coping: The importance of play for the development of children in health and disease. *Neuroscience & Biobehavioral Reviews*, *95*, 421-429.

Norris, F. H., Friedman, M. J., Watson, P. J., Byrne, C. M., Diaz, E., & Kaniasty, K. (2002). 60,000 Disaster victims speak: Part I. An empirical review of the empirical literature, 1981-2001. *Psychiatry, 65*(3), 207–239.

Nutbrown, C., & Clough, P. (2014). *Early childhood education: History, Philosophy and Experience*. Sage.

Olfman, S. (Ed.). (2003). *All work and no play: How educational reforms are harming our preschoolers*. Greenwood Publishing Group.

Orgilés, M., Morales, A., Delvecchio, E., Mazzeschi, C., & Espada, J. P. (2020). Immediate psychological effects of the COVID-19 quarantine in youth from Italy and Spain. *Frontiers in Psychology*, *11*, 2986.

Our World Data. (2021). COVID-19 Data Repository by the Center for Systems Science and Engineering (CSSE) at Johns Hopkins University. Retrieved May 31, 2021 from https://ourworldindata.org/.

Ozaki, C. C., Olson, A. B., Johnston-Guerrero, M. P., & Pizzolato, J. E. (2020). Understanding Persistence Using a Phenomenological Variant of Ecological Systems Theory. *Community College Review*, *48*(3), 252-276.

Pan, A., Liu, L., Wang, C., Guo, H., Hao, X., Wang, Q., Huang, J., He, N., Yu, H., Lin, X., Wei, S., & Wu, T. (2020). Association of Public Health Interventions With the Epidemiology of the COVID-19 Outbreak in Wuhan, China. *JAMA*, *323*(19), 1915–1923. Retrieved on October 18, 2020 from https://doi.org/10.1001/jama.2020.6130

Paquette, D. & Ryan, J. (2001). *Bronfenbrenner's ecological systems theory.* Retrieved January, 9, 2021 from http://www.cmskids.com/providers/early_steps /training/documents /bronfenbrenners_ecological.pdf

Parker, R., & Thomsen, B. S. (2019). L*earning through play at school: A study of playful*

integrated pedagogies that foster children's holistic skills development in the primary school classroom. Retrieved on August 16, 2021 from https://research.acer.edu.au/cgi/viewcontent.cgi?article=1023&context=learning_processes.

Patrick, S. W., Henkhaus, L. E., Zickafoose, J. S., Lovell, K., Halvorson, A., Loch, S., Letterie, M., & Davis, M. M. (2020). Well-being of parents and children during the COVID-19 pandemic: a national survey. *Pediatrics*, *146*(4).

Patterson, G. R., & Stouthamer-Loeber, M. (1984). The correlation of family management practices and delinquency. *Child Development, 55,* 1299-1307.

Peisner-Feinberg, E. S., Burchinal, M. R., Clifford, R. M., Culkin, M. L., Howes, C., Kagan, S. L., & Yazejian, N. (2001). The relation of preschool child-care quality to children's cognitive and social developmental trajectories through second grade. *Child Development*, *72*(5), 1534-1553.

Pettoello-Mantovani, M., Pop, T. L., Mestrovic, J., Ferrara, P., Giardino, I., Carrasco-Sanz, A., Nigri, L., Namazova-Baranova, L., Vural, M., & Çokuğraş, F. Ç. (2019). Fostering resilience in children: the essential role of healthcare professionals and families. *The Journal of Pediatrics*, *205*, 298-299.

Pfefferbaum, B., Jacobs, A. K., Jones, R. T., Reyes, G., & Wyche, K. F. (2017). A skill set for supporting displaced children in psychological recovery after disasters. *Current Psychiatry Reports, 19*, 60.

Pokhrel, S., & Chhetri, R. (2021). A literature review on impact of COVID-19 pandemic on teaching and learning. *Higher Education for the Future*, *8*(1), 133-141.

Prime, H., Wade, M., & Browne, D. T. (2020). Risk and resilience in family well-being during the COVID-19 pandemic. *American Psychologist, 75*(5):631-643

Ravens-Sieberer, U., Kaman, A., Erhart, M., Devine, J., Schlack, R., & Otto, C. (2021). Impact of the COVID-19 pandemic on quality of life and mental health in children and adolescents in Germany. *European Child & Adolescent Psychiatry*, 1–11.

Ravid, R. & Ginsburg, M. (1988). *The relationship between Jewish early childhood education and family Jewish practices: Phase II.* Chicago: Board of Jewish Education of Metropolitan Chicago.

Reback, S. G. (1984). *Jewish education in early childhood: its impact on Jewish family values and observances.* Master's thesis, California State University, Northridge.

Reckmeyer, M. (2019). Focus on student engagement for better academic outcomes. Retrieved May 16, 2022 from https://www.gallup.com/education /267521/focus-student- engagement-better-academic-outcomes.aspx.

Reynolds, D. L., Garay, J. R., Deamond, S. L., Moran, M. K., Gold, W., & Styra, R. (2008). Understanding, compliance and psychological impact of the SARS quarantine experience. *Epidemiology & Infection*, *136*(7), 997-1007.

Ricciardi, C., Manfra, L., Hartman, S., Bleiker, C., Dineheart, L., & Winsler, A. (2021). School readiness skills at age four predict academic achievement through 5th grade. *Early Childhood Research Quarterly*, *57*, 110-120.

Rosen, Z., Weinberger-Litman, S. L., Rosenzweig, C., Rosmarin, D. H., Muennig, P., Carmody E. R., Rao, S. T., & Litman, L. (2020). Anxiety and distress among the first community quarantined in the US due to COVID-19: Psychological implications for the unfolding crisis.

Rothbart, M. K., & Putnam, S. P. (2002). Temperament and socialization. *Paths to*

successful development: Personality in the Life Course, 19-45.

Safran, M. A. (2009). Achieving recognition that mental health is part of the mission of CDC. *Psychiatric Services*, *60*(11), 1532-1534.

Şahin, B. K., Sak, R., & Şahin, İ. T. (2013). Parents' views about preschool education. *Procedia-Social and Behavioral Sciences*, *89*, 288-292.

Salmon, K., & Bryant, R. A. (2002). Posttraumatic stress disorder in children: The influence of developmental factors. *Clinical psychology review*, *22*(2), 163-188.

Saurabh, K., & Ranjan, S. (2020). Compliance and Psychological Impact of Quarantine in Children and Adolescents due to Covid-19 Pandemic. *Indian Journal of Pediatrics*, 1.

Saylor, C. F., Swenson, & C. C., Powell, P. (1992). Hurricane Hugo blows down the broccoli: preschoolers' post-disaster play and adjustment. *Child Psychiatry and Human Development, 22,* 139-149.

Schabas, R. (2004). Severe acute respiratory syndrome: Did quarantine help?. *Canadian Journal of Infectious Diseases and Medical Microbiology*, *15*.

Scheeringa, M. S., & Zeanah, C. H. (2001). A relational perspective on PTSD in early childhood. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, *14*(4), 799-815.

Schmidt, S. J., Barblan, L. P., Lory, I., & Landolt, M. A. (2021). Age-related effects of the COVID-19 pandemic on mental health of children and adolescents. *European Journal of Psychotraumatology*, 12(1), 1901407.

Shonkoff, J. P., Phillips, D. A., & National Research Council. (2000). Growing up in child care. In *From neurons to neighborhoods: The science of early childhood*

development. National Academies Press (US).

Sim, K., Chan, Y. H., Chong, P. N., Chua, H. C., & Soon, S. W. (2010). Psychosocial and coping responses within the community health care setting towards a national outbreak of an infectious disease. *Journal of Psychosomatic Research*, *68*(2), 195-202.

Sousa, D. A. (2016). *Engaging the rewired brain.* Learning Sciences International.

Spagnola, M., & Fiese, B. H. (2007). Family routines and rituals: A context for development in the lives of young children. *Infants & young children*, *20*(4), 284-299.

Spinelli, M., Lionetti, F., Pastore, M., & Fasolo, M. (2020). Parents' stress and children's psychological problems in families facing the COVID-19 outbreak in Italy. *Frontiers in Psychology*, *11*, 1713.

Sprang, G., & Silman, M. (2013). Posttraumatic stress disorder in parents and youth after health-related disasters. *Disaster Medicine and Public Health Preparedness*, *7*(1), 105-110.

Super, C. M., & Harkness, S. (1997). The cultural structuring of child development. *Handbook of Cross-Cultural Psychology*, *2*, 1-39.

Swan, K., Guerrero, F., Mitrani, M., & Schoener, J. (1990). Honing in on the target: Who among the educationally disadvantaged benefits most from what CBI?. *Journal of Research on Computing in Education*, *22*(4), 381-403.

Swenson, C. C., Saylor, C. F., Powell, M. P., Stokes, S. S., Foster, K. Y., & Belter, R. W. (1996). Impact of a natural disaster on preschool children: adjustment 14 months after a hurricane. *American Journal of Orthopsychiatry, 66*(1), 122-130.

Szente, J. (2020). Live Virtual Sessions with Toddlers and Preschoolers Amid COVID-19: Implications for Early Childhood Teacher Education. *Journal of Technology and Teacher Education, 28*(2), 373-380.

Tabachnick, B. G., & Fidell, L. S. (2013). Using multivariate statistics, 6th (ed.) Boston, MA.

Taghrir, M. H., Akbarialiabad, H., & Ahmadi Marzaleh, M. (2020). Efficacy of Mass Quarantine as Leverage of Health System Governance During COVID-19 Outbreak: A Mini Policy Review. *Archives of Iranian medicine, 23*(4), 265–267.

Tarrant, K., & Nagasawa, M. (2020). New York Early Care and Education Survey: Understanding the Impact of COVID-19 on New York Early Childhood System. Retrieved on October 29, 2020 from https://educate.bankstreet.edu /cgi/viewcontent.cgi ?article=1001&context=sc.

Terr, L.C. (1983). Chowchilla revisited: The effect of psychic trauma four years after a school-bus kidnapping. *American Journal of Psychiatry, 140*, 1543–1550.

Thorlacius, Ö., & Gudmundsson, E. (2015). Assessment of children's emotional adjustment: Construction and validation of a new instrument. *Child: Care, Health and Development, 41*, 762-771.

Thorlacius, Ö., & Gudmundsson, E. (2019). The development of the children's emotional adjustment scale–preschool version. *Journal of Psychoeducational Assessment*, *37*(3), 263-279.

Traverso, L., Viterbori, P., & Usai, M. C. (2019). Effectiveness of an executive function training in Italian preschool educational services and far transfer effects to pre-academic skills. *Frontiers in Psychology*, *10*, 2053.

UNESCO (2020). Adverse consequence of school closure. Retrieved on October 18, 2020 from https://en.unesco.org/covid19/educationresponse/consequences

United Nations, (2020). *Policy Brief: Covid-19 and the Need for Action on Mental Health.* New York. NY: United Nations.

Varia, M., Wilson, S., Sarwal, S., McGeer, A., Gournis, E., & Galanis, E. (2003). Investigation of a nosocomial outbreak of severe acute respiratory syndrome (SARS) in Toronto, Canada. *Cmaj*, *169*(4), 285-292.

Vespo, J. E. (1991). Features of preschoolers' relationships. *Early Child Development and Care*, *68*(1), 19-26.

Vogelstein, I. (2008). Early Childhood Jewish Education "If Not Now, When?" In Goodman, R. L., Flexner, P. A., & Bloomberg, L. D. (Eds.), *What we now know about Jewish education: Perspectives on research for practice*. Torah Aura Productions.

Vygotsky, L. S. (1978). The role of play in development. In M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds.), Mind in society: The development of higher psychological processes (pp. 92–104). Cambridge, MA: Harvard University Press.

Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020a). Immediate psychological responses and associated factors during the initial stage of the 2019 coronavirus disease (COVID-19) epidemic among the general population in China. *International Journal of Environmental Research and Public Health*, *17*(5), 1729.

Wang, G., Zhang, Y., Zhao, J., Zhang, J., & Jiang, F. (2020b). Mitigate the effects of home confinement on children during the COVID-19 outbreak. *The Lancet*, *395*(10228), 945-947.

Wertlieb, D., & Rosen, M. I. (2008). Inspiring Jewish Connections: Outreach to Parents with Infants and Toddlers. *Zero to Three*, *28*(3), 11-17.

Whitebread, D., & O'Sullivan, L. (2012). Preschool children's social pretend play: Supporting the development of metacommunication, metacognition and self-regulation. *International Journal of Play*, *1*(2), 197-213.

Woocher, J., & Woocher, M. (2014). Jewish education in a new century: An ecosystem in transition. In *American Jewish Year Book 2013* (pp. 3-57). Springer, Cham.

Wood, E., & Attfield, J. (2005). *Play, learning and the early childhood curriculum*. Sage.

World Health Organization. (2004). *Promoting mental health: Concepts, emerging evidence, practice: Summary report*. World Health Organization.

Xie, X., Xue, Q., Zhou, Y., Zhu, K., Liu, Q., Zhang, J., & Song, R. (2020). Mental health Status among children in home confinement during the coronavirus disease 2019 outbreak in Hubei Province, China. *JAMA Pediatrics*, *174*(9), 898-900.

Xu, D. D., Rao, W. W., Cao, X. L., Wen, S. Y., An, F. R., Che, W. I., Bressington, D. T., Cheung, T., Ungvari, G. S., & Xiang, Y. T. (2020). Prevalence of depressive Symptoms in primary school students in China: A systematic review and meta-analysis. *Journal of Affective Disorders*, *268*, 20-27.

Yogman, M., Garner, A., Hutchinson, J., Hirsh-Pasek, K., Golinkoff, R. M., & Committee on Psychosocial Aspects of Child and Family Health. (2018). The power of play: A pediatric role in enhancing development in young children. *Pediatrics*, *142*(3).

Zeanah, C. H. (2009). The importance of early experiences: Clinical, research, and policy perspectives. *Journal of Loss and Trauma*, *14*(4), 266-279.

Zhang, K., Wu, S., Xu, Y., Cao, W., Goetz, T., & Parks-Stamm, E. J. (2021). Adaptability promotes student engagement under COVID-19: the multiple mediating effects of academic emotion. *Frontiers in psychology*, *11*, 633265.

APPENDICES

Appendix A

Email to Preschool Directors:

Dear Colleague,

We are hoping you will assist us in better understanding the impact of the COVID-19 shutdown on preschool students. We are interested in conducting a research student asking parents of preschoolers to complete an anonymous email survey about their and their child's response to the unprecedented circumstances in which we are living.

The study is being undertaken by Dean Rona Novick, at the Azrieli Graduate School of Jewish Education and Administration, a tenured faculty member, experienced researcher and clinical psychologist, in collaboration with Sarah Kravitsky, a preschool director and doctoral student at Azrieli.

We would like you to send the text below to your preschool parent body, and to send a reminder text 1 week later (also provided below). It explains the survey, confidentiality, and incentives available, and that there is no requirement for parents to complete the survey. Parents who are willing to participate simply click the link we have provided and will be connected to an online survey. The survey has components that assess family composition, the preschooler's social opportunities during the shutdown (via remote school classes and other vehicles), and preschooler adaptation and behavior since the shutdown. There are also questions to evaluate parents' level of stress.

We greatly appreciate your assistance and are happy to answer any questions you might have. Please feel free to email Dr. Novick at rona.novick@yu.edu.

Thanking you in advance

First Email to Parents:

Our school has been selected to participate in a research project to help understand preschooler's response to the COVID-19 shutdown. Below, you will find a link to an anonymous survey. The research is being conducted by Dr. Rona Novick, Dean of the Azrieli Graduate School of Jewish Education at Yeshiva University and Sarah Kravitsky, an Azrieli doctoral candidate. Your participation in this study is voluntary. If you complete the survey, you can choose to be entered into a drawing to win either a $100 or $50 Amazon gift card.

The survey takes 12-15 minutes to complete. If you have any questions about the research or the survey, you can reach Dr. Novick at rona.novick@yu.edu

Click the link to complete the survey: link will be included here

Thank you for helping us understand the impact of the recent shutdown on our children. Learning more about how preschoolers respond to challenges can help shape programs for the future.

Appendix B

Second Email to Parents- 1 Week Later

Dear Parents,

For those of you who completed the Preschool Shutdown Survey we wrote about last week, thank you. If you have not yet completed the survey, we hope you will consider completing it now. The research is being conducted by Dr. Rona Novick, Dean of the Azrieli Graduate School of Jewish Education at Yeshiva University and Sarah Kravitsky, an Azrieli doctoral candidate. Your participation in this study is voluntary. If you complete the survey, you can choose to be entered into a drawing to win either a $100 or $50 Amazon gift card.

The survey takes 12-15 minutes to complete. If you have any questions about the research or the survey, you can reach Dr. Novick at rona.novick@yu.edu

Click the link to complete the survey:

Thank you for helping us understand the impact of the recent shutdown on our children. Learning more about how preschoolers respond to challenges can help shape programs for the future.

Appendix C

Survey

Preschool Shutdown Survey

Introduction

1. You are invited to participate in a research study about preschoolers' experiences during the shutdown resulting from COVID-19. The goal of this study is to gain a better understanding of the experiences and adjustments of young children as a result of theshutdown.

This study is being conducted by Dr. Rona Novick, Dean of the Azrieli Graduate School fo Jewish Education and Administration and Sarah Kravitsky, an Azrieli doctoral candidate. To participate in this study you must be the parent of a child from the age of 2 to 6 that lived in an area that required schools to close, businesses to shut down, and limited social interactions as a result of COVID-19.

Participation in this study is voluntary. There are no negative consequences anticipated either from participation or from electing not to participate. You may skip questions and you may end the survey at any time. All responses will be anonymous and data on the outcome will be shared only when combined with other responses. No individual data will be reported or shared.

There will be instructions at the end of the survey for those who would like to be entered into a drawing to win either a $100 or $50 Amazon gift card.

Please answer the following questions based on the time you and your child were under enforced shutdown. This period began when states mandated the majority of people in your area to remain home and leave only for essential items. Businesses were closed and only essential workers were permitted to travel to work.

If you have more than one child in preschool, please complete the survey considering the preschool child whose first name comes first alphabetically.

2. The person completing this survey is

- ◯ Mother
- ◯ Father
- ◯ Stepmother
- ◯ Stepfather
- ◯ Foster mother
- ◯ Foster father
- ◯ Other Guardian

* 3. During the shutdown, we lived at the following zip or postal code

[ ]

* 4. The preschool child I will be answering the survey questions about was born

- ◯ between January and June, 2014
- ◯ between July and December, 2014
- ◯ between January and June, 2015
- ◯ between July and December, 2015
- ◯ between January and June, 2016
- ◯ between July and December, 2016
- ◯ between January and June, 2017
- ◯ between July and December, 2017
- ◯ between January and June, 2018
- ◯ between July and December, 2018

5. My child's is

- ◯ Male
- ◯ Female

6. At the time of the shutdown, the adults living in our home included (check all that apply)

- ☐ Mother
- ☐ Father
- ☐ Babysitter, nanny
- ☐ Other (please specify)
- ☐ Grandmother
- ☐ Grandfather

[ ]

7. During the shutdown, the number of siblings living at home (not including your preschooler) was

- ◯ 1
- ◯ 2
- ◯ 3
- ◯ 4
- ◯ 5
- ◯ 6
- ◯ 7
- ◯ more than 7

8. During the shutdown, the employment status of the adults at home was

	employed - attending work outside home	employed - working at home	employed - temporarily furloughed	unemployed during shutdown - was working prior	unemployed - was not working prior to shutdown
Mother	◯	◯	◯	◯	◯
Father	◯	◯	◯	◯	◯
Other guardian in home	◯	◯	◯	◯	◯

Preschool Shutdown Survey

Socialization

9. On average, during the shutdown my child played with older siblings

- ◯ not at all
- ◯ once a week
- ◯ 2-3 times a week
- ◯ 4-5 times a week
- ◯ daily
- ◯ no older siblings at home

10. On average, during the shutdown my child played with younger siblings

- ◯ not at all
- ◯ once a week
- ◯ 2-3 times a week
- ◯ 4-5 times a week
- ◯ daily
- ◯ no younger siblings at home

11. On average, during the shutdown my child played outside

- ◯ not at all
- ◯ once a week
- ◯ 2-3 times a week
- ◯ 4-5 times a week
- ◯ daily
- ◯ no access to outdoor play

12. My child was enrolled in a preschool program prior to the shutdown

- ◯ Yes
- ◯ No

Preschool Shutdown Survey

School Involvement

For questions about school, when we refer to video lessons we include any lessons offered via Zoom, FaceTime, or other method that allows teachers and students to see each other and interact

13. My child attended the school's on line programming/ video classes on average

- ◯ not at all
- ◯ once a week
- ◯ 2-3 times a week
- ◯ more than 3 times a week
- ◯ daily
- ◯ no such programs were offered

14. My child was willing to join video classes

- ◯ Always
- ◯ Usually
- ◯ Sometimes
- ◯ Rarely
- ◯ Never
- ◯ not offered

15. My child spoke about school and his/her teachers

- ◯ Often
- ◯ Sometimes
- ◯ Rarely
- ◯ Never

16. On a typical day, each video sessions was

- ◯ 20 minutes or less
- ◯ 30 minutes
- ◯ 45 minutes
- ◯ 1 -2 hours
- ◯ Over 2 hours

17. On average, the total amount of daily video classes my child's school offered was

- ◯ 20 minutes or less
- ◯ 30 minutes
- ◯ 45 minutes
- ◯ 1-2 hours
- ◯ more than 2 hours
- ◯ not offered

18. On a typical day, how long did your child remain actively engaged and attentive during on-line sessions (total over the entire day)

- ◯ less than 15 minutes
- ◯ 15-30 minutes
- ◯ 30-60 minutes
- ◯ more than 1 hour
- ◯ not offered

19. How often did your child's teacher visit (using social distancing) during the shutdown?

- ◯ not at all
- ◯ once a month
- ◯ twice a month
- ◯ more than twice a month
- ◯ weekly

20. How often did your child participate in one on one calls or video chats with their teacher during the shutdown

- ◯ not at all
- ◯ once a month
- ◯ twice a month
- ◯ more than twice a month
- ◯ weekly
- ◯ not offered

21. I found the lessons provided by the school

- ◯ Extremely helpful
- ◯ Very helpful
- ◯ Somewhat helpful
- ◯ Not so helpful
- ◯ Not at all helpful

22. I appreciated the school's efforts

- ◯ Very much
- ◯ Somewhat
- ◯ A little
- ◯ Not at all

23. Something I really wish the school had offered to my child during the shutdown is

24. Something I really wish the school had offered to parents during the shutdown is

Preschool Shutdown Survey

Activities

25. On a typical day during the shutdown, my child watched television, videos, or played digital games (not as part of school)

- ◯ less than 15 minutes
- ◯ 15-30 minutes
- ◯ 30-60 minutes
- ◯ more than an hour
- ◯ not available in our home

26. During the shutdown, my child interacted with friends (place a check in each row)

	Never	Rarely	Often	Daily
did not interact with friends socially	◯	◯	◯	◯
Via video chat	◯	◯	◯	◯
On phone calls	◯	◯	◯	◯
on in-person playdates	◯	◯	◯	◯
at park visits	◯	◯	◯	◯

27. We would like for you to reflect on your preschooler now, as compared to before the shutdown. For each row, indicate how your preschooler has changed since the shutdown

	A lot less than before	Slightly less than before	Same as before	Slightly more than before	A lot more than before
can easily stop thinking about things that scare him or her	○	○	○	○	○
asks only once or twice about things that worry him or her	○	○	○	○	○
takes a lot to get him/her angry	○	○	○	○	○
keeps calm when things go wrong	○	○	○	○	○
controls his/her worries with ease	○	○	○	○	○

28. Remember, for each row, indicate how your preschooler has changed since the shutdown

	A lot less than before	Slightly less than before	Same as before	Slightly more than before	A lot more than before
is able to contain him/herself when upset or angry	○	○	○	○	○
has good control of his/her temper	○	○	○	○	○
keeps calm during confrontations	○	○	○	○	○
is patient with others	○	○	○	○	○
recovers quickly after becoming scared	○	○	○	○	○

29. Since the shutdown, I have noted changes in my preschooler in the following areas

	a lot worse than before shutdown	slightly worse than before shutdown	no different since shutdown	slightly better since shutdown	a lot better since shutdown
Toilet training	◯	◯	◯	◯	◯
Language skills	◯	◯	◯	◯	◯
Going to sleep	◯	◯	◯	◯	◯
Sleeping in own bed	◯	◯	◯	◯	◯
Dressing self	◯	◯	◯	◯	◯
Temper tantrums	◯	◯	◯	◯	◯
Aggressive behavior	◯	◯	◯	◯	◯
Clinginess - difficulty separating	◯	◯	◯	◯	◯

Other (please specify)

30. How frequently does your preschooler show any of the following behaviors?

	Never	Very Rarely	Sometimes	Often
Imaginative play includes references to COVID or being unable to go out	◯	◯	◯	◯
Talks about COVID-19 or the shutdown	◯	◯	◯	◯
Has nightmares	◯	◯	◯	◯
Nightmares are about COVID-19 or shutdown	◯	◯	◯	◯
Becomes upset when something reminds him/her of Covid-19 or shutdown	◯	◯	◯	◯
Less interested in playing or talking	◯	◯	◯	◯
Shows less feeling than prior to shutdown (less anger, or less loving feelings)	◯	◯	◯	◯
Plays with less imagination, or appears to have less fun playing	◯	◯	◯	◯

β1. How frequently does your preschooler show any of the following behaviors?

	Never	Very Rarely	Sometimes	Often
Increased irritability, moodiness, or temper tantrums	○	○	○	○
Decreased ability to concentrate	○	○	○	○
Seems too aware of what is going on around him/her	○	○	○	○
Gets easily startled	○	○	○	○
New fears (the dark, strangers, etc)	○	○	○	○
Difficulty going to sleep (not fear of dark)	○	○	○	○
Fear of separating from you?	○	○	○	○
Increased aggressiveness	○	○	○	○
Physical complaints (headache/stomachache)	○	○	○	○

Other (please specify)

Azrieli
Azrieli Graduate School of Jewish Education and Administration

Preschool Shutdown Survey

Parents

32. The questions that follow ask about your feelings and thoughts during the last month. Please choose the response in each row that indicates your answer. In the past month . . .

	Never	Almost Never	Sometimes	Fairly often
how often have you been upset because of something that happened unexpectedly?	○	○	○	○
how often have you felt that you were unable to control the important things in your life?	○	○	○	○
how often have you felt nervous and "stressed"?	○	○	○	○
how often have you felt confident about your ability to handle your personal problems?	○	○	○	○
how often have you felt that things were going your way?	○	○	○	○

β3. In the past month . . .

	Never	Almost Never	Sometimes	Fairly often
how often have you found that you could not cope with all the things that you had to do?	○	○	○	○
how often have you been able to control irritations in your life?	○	○	○	○
how often have you felt that you were on top of things?	○	○	○	○
how often have you been angered because of things that were outside of your control?	○	○	○	○

34. The following statements describe feelings and perceptions about the experience of being a parent. Think of each of the items in terms of how your relationship with your child or children typically is. Please indicate the degree to which you agree or disagree with each item

	Strongly Disagree	Disagree	Undecided	Agree	Strongly agree
I am happy in my role as a parent.	○	○	○	○	○
Caring for my child(ren) sometimes takes more time and energy than I have to give.	○	○	○	○	○
I feel close to my child(ten)	○	○	○	○	○
I enjoy spending time with my child(ren)	○	○	○	○	○
My child(ren) is(are) an important source fo affection for me	○	○	○	○	○

35. Remember, please indicate the degree to which you agree or disagree with each item about your feelings and perceptions in terms of your relationship with your child(ren).

	Strongly Disagree	Disagree	Undecided	Agree	Strongly agree
Having children gives me a more certain and optimistic view for the future	○	○	○	○	○
The major source of stress in my life is my child(ren).	○	○	○	○	○
Having children leaves little time and flexibility in my life.	○	○	○	○	○
Having children has been a financial burden.	○	○	○	○	○
It is difficult to balance different responsibilities because of my child(ren)	○	○	○	○	○
Having children has meant having too few choices and too little control over my life.	○	○	○	○	○

Azrieli
Azrieli Graduate School of Jewish Education and Administration

Preschool Shutdown Survey

36. Thank you for participating. We may wish to speak to some parents of preschoolers for a follow up interview to hear more about your experiences during the shutdown. If you would be willing to be interviewed, please provide your email information in the comment box below.

37. If you would like to be entered into the drawing for a Amazon gift card, enter your email below. One $100 and two $50 gift cards will be awarded. Email addresses will be used ONLY for the purposes of the drawing. No survey answers or information will be associated with your email address and we will contact you ONLY if you are selected as a winner in the drawing.

Appendix D

Regressive Behavior Scale

29. Since the shutdown, I have noted changes in my preschooler in the following areas

	a lot worse than before shutdown	slightly worse than before shutdown	no different since shutdown	slightly better since shutdown	a lot better since shutdown
Toilet training	○	○	○	○	○
Language skills	○	○	○	○	○
Going to sleep	○	○	○	○	○
Sleeping in own bed	○	○	○	○	○
Dressing self	○	○	○	○	○
Temper tantrums	○	○	○	○	○
Aggressive behavior	○	○	○	○	○
Clinginess - difficulty separating	○	○	○	○	○

Other (please specify)

30. How frequently does your preschooler show any of the following behaviors?

	Never	Very Rarely	Sometimes	Often
Imaginative play includes references to COVID or being unable to go out	○	○	○	○
Talks about COVID-19 or the shutdown	○	○	○	○
Has nightmares	○	○	○	○
Nightmares are about COVID-19 or shutdown	○	○	○	○
Becomes upset when something reminds him/her of Covid-19 or shutdown	○	○	○	○
Less interested in playing or talking	○	○	○	○
Shows less feeling than prior to shutdown (less anger, or less loving feelings)	○	○	○	○
Plays with less imagination, or appears to have less fun playing	○	○	○	○

Appendix E

Post-Traumatic Stress Disorder Questionnaire for Preschool Age Children (PTSD-PAC)

29. Since the shutdown, I have noted changes in my preschooler in the following areas

	a lot worse than before shutdown	slightly worse than before shutdown	no different since shutdown	slightly better since shutdown	a lot better since shutdown
Toilet training	○	○	○	○	○
Language skills	○	○	○	○	○
Going to sleep	○	○	○	○	○
Sleeping in own bed	○	○	○	○	○
Dressing self	○	○	○	○	○
Temper tantrums	○	○	○	○	○
Aggressive behavior	○	○	○	○	○
Clinginess - difficulty separating	○	○	○	○	○

Other (please specify)

30. How frequently does your preschooler show any of the following behaviors?

	Never	Very Rarely	Sometimes	Often
Imaginative play includes references to COVID or being unable to go out	○	○	○	○
Talks about COVID-19 or the shutdown	○	○	○	○
Has nightmares	○	○	○	○
Nightmares are about COVID-19 or shutdown	○	○	○	○
Becomes upset when something reminds him/her of Covid-19 or shutdown	○	○	○	○
Less interested in playing or talking	○	○	○	○
Shows less feeling than prior to shutdown (less anger, or less loving feelings)	○	○	○	○
Plays with less imagination, or appears to have less fun playing	○	○	○	○

β1. How frequently does your preschooler show any of the following behaviors?

	Never	Very Rarely	Sometimes	Often
Increased irritability, moodiness, or temper tantrums	○	○	○	○
Decreased ability to concentrate	○	○	○	○
Seems too aware of what is going on around him/her	○	○	○	○
Gets easily startled	○	○	○	○
New fears (the dark, strangers, etc)	○	○	○	○
Difficulty going to sleep (not fear of dark)	○	○	○	○
Fear of separating from you?	○	○	○	○
Increased aggressiveness	○	○	○	○
Physical complaints (headache/stomachache)	○	○	○	○

Other (please specify)

Azrieli
Azrieli Graduate School of Jewish Education and Administration

Preschool Shutdown Survey

Parents

32. The questions that follow ask about your feelings and thoughts during the last month. Please choose the response in each row that indicates your answer. In the past month . . .

	Never	Almost Never	Sometimes	Fairly often
how often have you been upset because of something that happened unexpectedly?	○	○	○	○
how often have you felt that you were unable to control the important things in your life?	○	○	○	○
how often have you felt nervous and "stressed"?	○	○	○	○
how often have you felt confident about your ability to handle your personal problems?	○	○	○	○
how often have you felt that things were going your way?	○	○	○	○

Appendix F

Children's Emotional Adjustment Scale–Preschool Version (CEAS-P)

27. We would like for you to reflect on your preschooler now, as compared to before the shutdown. For each row, indicate how your preschooler has changed since the shutdown

	A lot less than before	Slightly less than before	Same as before	Slightly more than before	A lot more than before
can easily stop thinking about things that scare him or her	○	○	○	○	○
asks only once or twice about things that worry him or her	○	○	○	○	○
takes a lot to get him/her angry	○	○	○	○	○
keeps calm when things go wrong	○	○	○	○	○
controls his/her worries with ease	○	○	○	○	○

28. Remember, for each row, indicate how your preschooler has changed since the shutdown

	A lot less than before	Slightly less than before	Same as before	Slightly more than before	A lot more than before
is able to contain him/herself when upset or angry	○	○	○	○	○
has good control of his/her temper	○	○	○	○	○
keeps calm during confrontations	○	○	○	○	○
is patient with others	○	○	○	○	○
recovers quickly after becoming scared	○	○	○	○	○