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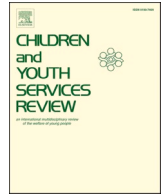
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# Caregiver decision-making on young child schooling/care in the face of COVID-19: The influence of child, caregiver, and systemic factors<sup>☆</sup>

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## ABSTRACT

In March 2020, U.S. schools and daycares largely shut down to manage the novel COVID-19 pandemic. As the country made efforts to reopen the economy, American parents faced difficult decisions regarding returning to work and securing schooling and care for their young children. During the summer and fall of 2020, caregivers ( $N = 1655$ ) of children ( $N = 2408$ ; ages 0 – 12 years) completed questionnaires assessing their decision-making process regarding their children's daycare or schooling situation. A mixed method approach (i.e., qualitative, quantitative assessments) was utilized. Outcomes indicated three main themes that impacted caregivers' choices: child factors, caregiver factors, and systemic factors. Caregivers experienced high levels of stress while worrying about their child's and family's health, job responsibilities, and risk of COVID-19 infection rates in their areas. Continued assessment of families and children during this time is warranted.

## 1. Caregiver decision-making on young child schooling/care in the face of COVID-19: the influence of child, caregiver, and systemic factors

The COVID-19 pandemic surged in the United States during the early months of 2020, leading to the shutdown of numerous businesses, including schools and daycare facilities (Peele & Riser-Kositsky, 2020). For many caregivers, this meant providing schooling at home and managing childcare responsibilities for an extended period of time. Several months later (starting in April and May the same year), states issued decisions to reopen businesses such as daycares, and some issued options for in-person classroom instruction in schools in the fall (The New York Times, 2021; Washington Post Staff, 2020). As the beginning of the school year approached, schools across the country faced staffing and safety challenges in reopening schools in-person (National Academies of Sciences, Engineering, and Medicine, 2020), and nationally, a second wave led to spikes in COVID-19 infection rates (Leatherby, 2021). These unique circumstances forced caregivers to decide whether or not to return their child to in-person daycare or school, while weighing the effects on children's well-being, family well-being, and parental responsibilities (Lakshmin, 2020).

This decision may be understood through Prime et al.'s (2020)

conceptual framework of risk and resilience specific to the impact of COVID-19 on children and families. Prime and colleagues' model posits the COVID-19 pandemic places households in unusual circumstances due to social disruptions which are likely causing families to face increased daily stressors. Namely, changes or challenges to situations integral to daily functioning (e.g., work, school) may lead to stress due to the uprooting of "normal" life; in turn, this impacts the functioning of the entire family system (e.g., parents, children; Prime et al., 2020; Schneider et al., 2015, 2017). Families facing the possibility of having to make changes during the pandemic may need to weigh important factors based on their circumstances (e.g., financial insecurity, psychological distress, child behavioral functioning) to reduce risk and manage well-being. Prime and colleagues' model recognizes factors such as child adjustment (emotional problems, behavioral functioning, academic progress, peer relations), caregiver well-being (psychological distress, parenting stress, mental health symptoms), and social disruption (job loss, financial instability, social distancing, confinement) as integral components impacting family health and well-being (2020). Identifying factors important to family decisions regarding schooling (e.g., parent factors, child factors, other family factors) may help illuminate the most salient concerns families faced during this period.

As Prime recognized, the COVID-19 pandemic has significantly

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impacted child mental health and well-being. For example, prolonged social distancing has disrupted daily routines, with many children deprived of social stimulation beyond their homes (Yoshikawa et al., 2020). It has been suggested that these changes place children at high risk of negative psychosocial outcomes due to school closures and a lack of social stimulation (Ghosh et al., 2020). Moreover, schools and daycare closures may have intensified food insecurity thereby increasing risks to physical health and mental well-being (Schwartz & Rothbart, 2020). Black and Brown families also must grapple with the increased likelihood of contracting the virus and then receiving poorer quality of healthcare if they were to become sick (Commonwealth Fund Commission on a High Performance Health System, 2011; Tai et al., 2020). Therefore, it is likely that families will consider the effects of schooling on their child's well-being.

The pandemic may also have similar effects on parents mental health and well-being. For many caregivers, the pandemic led to changes in work roles as well as increased responsibilities at home (e.g., distance education; Prime et al., 2020). Many caregivers were reporting depleted emotional resources, anxiety, and family stress due to confinement from COVID-19 (Statistics Canada, 2020). Indeed, parenting stress has been well-documented as a risk-factor for negative outcomes on caregiver mental health, child behavior problems, and child academic achievement (Holly et al., 2019). Together, this increase in stress and additional caregiving responsibilities can strain the parent-child relationship (Constantino et al., 2020). Therefore, caregivers may include these factors in their decision about whether to return their child to daycare or school.

Caregivers may also have considered the impact of sending their children to school on other family members. Research on COVID-19 (at the time these caregivers were making their decisions) indicated children often showed milder cases and had better outcomes than most adults, yet rare cases of child death still appeared (Ludvigsson, 2020) with possible other infections occurring from COVID-19 exposure (Multisystem Inflammatory Syndrome; CDC, 2020a). Concerns for children's preexisting conditions or young age (under 1 year) also posed possible increased risk for severe COVID-19 symptoms (Mayo Clinic Staff, 2020; Sinha et al., 2020). Additionally, families faced the concern of children acting as vectors of the disease to high-risk caregivers or extended family (Yonker et al., 2020). These concerns may have been compounded by local infection rates; availability of testing supplies; and safety measures in place in learning centers, workspaces, or in the local community (Calfas & Prang, 2020; Hu et al., 2020).

The present study used both qualitative and quantitative methods to assess factors most significant to caregivers' decisions regarding their child's care or schooling during the fall of 2020 – namely, how caregivers chose whether or not to return their young children (ages 0 – 12 years) to face-to-face daycare and school. Children were limited to elementary school due to the additional monitoring and supervision required for children of this developmental level (CDC, 2021). Goals of the present study included: measuring the impact of the ongoing COVID-19 pandemic on families, determining what factors families ranked as being the most significant in their decision process, and assessing parental stress related to this decision. It was predicted that caregiver factors would play the most significant role in caregiver decisions.

## 2. Method

Institutional review board (IRB) approval was obtained for the present study from the University of Arkansas on July 30, 2020 (Protocol #2007274113). Participants completed informed consent prior to starting the study.

### 2.1. Procedures

Data collection for this project took place between July 30 and August 12, 2020. Data collection was limited to these days due to the

time constraints of getting IRB approval and the challenges of study set up. Further, the researchers aimed to complete data collection prior to the start of schools in the fall given the unknown factors that may have changed parental decisions if surveys remained open (e.g., increased rates of COVID-19 infections, another mandatory shut down). Time limited data collection helped reduce the likelihood of outside factors altering responses over time. The assessment protocol was delivered in an electronic link (Qualtrics) that was advertised via social media platforms (e.g., Facebook), email listservs, and shared via snowballing (e.g., participants sharing the link with other eligible families). Interested caregivers who opened the link were redirected to a consent form that described the study. Following consent, the assessment protocol was initiated. Validity check questions were used to ensure all responders were human and read the instructions before answering each item. After completing questionnaires, respondents were asked if they would like to be entered into a drawing for one of 20 Amazon gift cards (\$35).

### 2.2. Participants

Participants included caregivers of children (age ranges 0–12 years) who were enrolled in elementary school or daycare prior to the government shutdown due to the COVID-19 pandemic. A total of 2085 submissions were entered into the online data collection software (Qualtrics) database. Only one caregiver per child could participate in the present study. Of those entries, 408 were incomplete data (<85% of completed data) and 22 participants failed validity checks leading to a total of 1655 valid, complete entries. Although the research team created the 85% cutoff criterion, the vast majority of caregivers not completing the survey ( $n = 351$ ; 86.0%) completed only 1% of study questions thus preventing further exploration for potential biases in missingness.

Caregivers reporting on their location were distributed across the West ( $n = 348$ ; 21.5%), South ( $n = 376$ ; 23.2%), Midwest ( $n = 282$ ; 17.4%), and Northeast ( $n = 616$ ; 38.0%) regions of the United States ( $n = 1622$ ). The present sample was disproportionately mothers (95.2%) who identified as White/Not-Latinx ( $n = 1544$ ; 93.3%), ~36 years old ( $SD = 4.21$ ) and lived in a household with 2 adults ( $SD = 0.34$ ; Table 1). The study authors recognize this sample of families who had higher-than-average household incomes (\$100,000+) may not represent those impacted most significantly (low income, families of color) by the pandemic (Valenzuela et al., 2020).

Caregivers reported between one and two children in the home ( $SD = 0.64$ ) on average, making a total of 2408 children usually attending elementary school ( $n = 721$ ; 29.9%) or daycare ( $n = 1743$ ; 72.4%), sometimes both ( $n = 56$ ; 2.3%). Most were in kindergarten ( $n = 129$ ; 17.9%), first grade ( $n = 174$ ; 24.1%), or second grade ( $n = 108$ ; 15.0%); a small percentage had Individualized Education Plans (IEPs;  $n = 76$ ; 3.2%) or 504 plans ( $n = 29$ ; 1.2%). Children were ~4 years of age ( $SD = 2.55$ ) and mostly male ( $n = 1248$ ; 51.8%). Most children were not diagnosed with any mental health disorders ( $n = 2021$ ; 83.9%). See Table 1.

Overall, 1194 (72.1%) caregivers returned their child to school/daycare after being removed for a period of time, 739 (44.7%) caregivers chose to keep their children at home after their child was out of school/daycare, and 49 (3.0%) kept their child in daycare the entire time. Caregivers could select more than one option, yielding totals greater than 100%.

### 2.3. Measures

#### 2.3.1. COVID-19 impact

Participants completed questions regarding the family's recent exposure to the coronavirus. Caregivers completed 16 items on a dichotomous (yes/no) scale related to exposure, followed by four questions related to who was impacted by the coronavirus directly.

**Table 1**  
Demographic Characteristics of Sample.

	N	M(SD)	%
<b>Region</b>	1622		
West	348		21.5%
South	376		23.2%
Midwest	282		17.4%
Northeast	616		38.0%
<b>Caregivers Completing Survey</b>	1655		
Total Adults in Home	3333	2.02 (0.34)	
Age	1650	36.30 (4.21)	
Gender	1653		
Male	72		4.4%
Female	1576		95.3%
Non-binary	4		0.2%
Transgender	1		0.1%
Relationship to Child	1650		
Mother	1571		95.2%
Father	73		4.4%
Others	6		0.4%
Race/Ethnicity*	1655		
White/Not-Latinx	1544		93.3%
Latinx	46		2.8%
Black	19		1.1%
Asian	71		4.3%
Native American/Alaska Native	5		0.3%
Native Hawaiian/Pacific Islander	3		0.2%
Other	12		0.7%
Yearly Household Income			
Pre-COVID	1575	\$196,000 (111,000)	
Post-COVID	1575	\$188,000 (109,000)	
Families Reporting Less Income	473		28.6%
<b>Children</b>			
Children in Home	2408	1.47 (0.64)	
Attend Elementary School**	721		29.9%
Pre-Kindergarten	57		7.9%
Kindergarten	129		17.9%
1st Grade	174		24.1%
2nd Grade	108		15.0%
3rd Grade	76		10.5%
4th Grade	62		8.6%
5th Grade	60		8.3%
With IEPs	76		10.5%
With 504 Plans	29		4.0%
Attend Daycare**	1743		72.4%
Age		3.87 (2.55)	
Gender	2408		
Male	1248		51.8%
Female	1153		47.9%
Non-binary	5		0.2%
Transgender	2		0.1%
Race/Ethnicity*	2408		
White/Not-Latinx	2259		93.8%
Latinx	124		5.1%
Black	69		2.9%
Asian	131		5.4%
Native American/Alaska Native	16		0.7%
Native Hawaiian/Pacific Islander	8		0.3%
Other	51		2.1%
Diagnoses*	2408		
None	2021		83.9%
ADHD	26		1.1%
ASD	12		0.5%
ODD	3		0.1%
Depression	2		0.1%
Anxiety	47		2.0%
PTSD	3		0.1%
Adjustment Disorder	2		0.1%
Learning Disorder	14		0.6%
Intellectual Disability	6		0.3%

Notes. \*More than one option was available, thus percentages could add up to greater than 100%. \*\*Some children attended both elementary school and daycare which is why the n's are greater than the total n in the sample. Attention-Deficit/Hyperactivity Disorder = ADHD; Autism spectrum disorder = ASD; Individualized education plan = IEP; Oppositional defiant disorder = ODD; Posttraumatic stress disorder = PTSD.

### 2.3.2. Factors in decisions

Caregivers rated 34 factors on the how important each was to their decision process to keep their child/children at home or return them to elementary school/daycare. Items were generated first through Prime et al.'s (2020) framework with additional items generated by the research team; then, a focus group of caregivers was recruited who helped both generate items and edit items for readability. Each item was ranked from 1 (*not at all important in my decision process*) to 10 (*incredibly important in my decision process*). Original content items were related to child adjustment, caregiver well-being, and social disruption (Prime et al., 2020). These categories then shifted to child factors (e.g., child's social or emotional development, child ability to obey health regulations), caregiver factors (e.g., caregiver's mental health, long term impact on career), and systemic factors (e.g., health regulations in place by the school/daycare, the rate of hospitalization for COVID-19 in our area) based on our iterative process. Furthermore, items were added that recognized physical illness concerns as Prime et al.'s model was limited to issues related to social disruption (2020). Caregivers then rated the top four most influential factors in their decision of their child's schooling/daycare.

### 2.3.3. Stress and confidence

Caregivers rated 5 items on a Likert-scale (1 = *not at all* to 5 = *completely*). Items included overall stress levels prior to COVID-19, current stress level, and stress related to the decision to return their child to school/daycare; also, caregivers rated their general confidence in decision-making and their confidence in their decision regarding their child's schooling/daycare.

### 2.3.4. Qualitative feedback

Caregivers were asked in an open-ended format to type in how they came to their decision regarding their child's schooling/daycare.

## 2.4. Data analysis plan

Univariate analyses were conducted to explore descriptive statistics of the sample (e.g., race/ethnicity, household status, child gender, whether the caregiver returned their child to school/daycare).

### 2.4.1. Factors in decisions

Three multinomial logistic regressions models were conducted to determine if child, caregiver, and systemic variables influenced a caregiver's decision to return their child to school/daycare. Decision to return to school or daycare was coded as a dichotomous variable. School and/or daycare ordinances were included as a covariate within all three models as these may have prevented children from returning to daycare/school. All models resulted in good model fit as evidenced by significant Omnibus tests of model coefficients and nonsignificant Hosmer and Lemeshow Tests.

**2.4.1.1. Child.** The following variables were entered into the regression analyzing the influence of child variables: child's social or emotional development, child's mental health, child's stress level, child's happiness level, child's physical health, overall concerns for risk of infection and health for child, child ability to obey health regulations, and receiving services for my child.

**2.4.1.2. Caregiver.** The following variables were entered into the regression analyzing the influence of caregiver variables: job flexibility, concern for job productivity, caregiver available to watch the child at home, long-term impact on career, caregiver's mental health, caregiver's stress level, caregiver's happiness level, caregiver's physical health, overall concerns for risk of infection and health for caregiver, health regulations in place at caregiver's work, affordability of daycare, burden on caregiver to watch child/children, and caregiver's desire to

need some time without child/children.

**2.4.1.3. Systemic.** The following variables were entered into the regression analyzing the influence of systemic variables: other family member's physical health, overall concerns for risk of infection and health for another family member, availability of COVID-19 testing in our area, efficiency of COVID-19 test results in our area, health precautions taken at home, decisions of other families we know, rate of hospitalization for COVID-19 in our area, perceptions of how bad it is in our area, and belief that COVID-19 is not as bad as news portrays it.

### 2.4.2. Qualitative feedback

Of 1655 total respondents, 1235 participants provided qualitative responses. This data was subsequently cleaned for irrelevant, non-applicable responses (e.g., responses such as "N/A"). A total of 956 qualitative responses were used in final analyses.

Caregiver open-text responses were analyzed using QSR NVivo 11 software. The research team used conventional content analysis (Hsieh & Shannon, 2005). Using this grounded theory approach (Strauss & Corbin, 1998), we first coded responses based on primary themes generated from Prime et al.'s framework (2020) and the quantitative responses. Additionally, we then identified additional key codes for each primary code using axial coding (Strauss & Corbin, 1998). We engaged in open coding of the complete dataset individually, and then collaboratively created a revised codebook of themes with a total of three main themes (i.e., child factors, caregiver factors, systemic factors) and 15 subthemes. Once we finalized the coding scheme, we developed definitions for each theme to assist coders in reliable coding practices; coders were then trained via 30-minute to hour-long training sessions conducted at least weekly for the duration of the coding process (~2.5 months).

Preliminary coding was conducted prior to coding the full sample to ensure adequate levels of agreement among the coders. The coding team consisted of two expert doctoral graduate coders and two undergraduate-level coders. Coders were required to achieve intercoder agreement ( $\kappa$ 's  $\geq 80\%$ ) among 25% ( $n = 239$ ) of the full sample data prior to coding the complete data set ( $N = 956$ ). Following the simple proportions agreement method developed by Miles and Huberman (1984), intercoder agreement for each theme was assessed (all  $\kappa$ 's  $> 80\%$ ).

## 3. Results

### 3.1. COVID-19 impact

Most families had a "stay at home" order ( $n = 1547$ ; 93.5%) and reported COVID-19 impacted schooling in some way for their child ( $n = 1399$ ; 84.6%). Caregivers were often prevented from visiting other family members ( $n = 1326$ ; 80.2%). As for work impact, about a quarter of caregivers had an essential worker in their household ( $n = 460$ ; 27.8%), a third of caregivers had a family member that had to cut back hours at work ( $n = 620$ ; 37.5%) or lost their job permanently ( $n = 87$ ; 5.3%). COVID-19 also impacted families directly, with caregivers stating someone in their family was exposed ( $n = 241$ ; 14.6%), diagnosed ( $n = 143$ ; 8.7%), hospitalized ( $n = 13$ ; 0.8%), or had died ( $n = 9$ ; 0.5%). After eliminating missing items ( $n = 60$ ; 3.6%) and outliers ( $n = 20$ ; 1.2%) from the complete sample ( $n = 1655$ ), 28.6% of caregivers ( $n = 473$ ) reported a significant decrease ( $t(1574) = 7.74$ ,  $p < .001$ , Cohen's  $d = 0.07$ ) in household income due to circumstances surrounding COVID-19. See Table 2.

### 3.2. Factors in decisions

#### 3.2.1. Child

The overall model was significant ( $p < .001$ ), accounted for 23% of

**Table 2**

Impact of COVID-19 on Study Sample.

	Total N	n (%)
<b>Area Impact</b>		
We had a "stay at home" order	1655	1547 (93.5%)
<b>School Impact</b>		
Our elementary schools were closed	1651	1628 (98.6%)
Our daycare centers were closed	1638	1351 (82.5%)
Our child's education was disrupted	1653	1399 (84.6%)
<b>Family Impact</b>		
We were unable to visit or care for a family member	1654	1326 (80.2%)
Our family lived separately for health, safety, or job demands	1654	156 (9.4%)
<b>Work Impact</b>		
Someone in the family kept working outside of the home (essential worker)	1653	460 (27.8%)
Someone in the family is a healthcare provider/first responder providing direct care	1653	202 (12.2%)
Our family income decreased	1653	473 (28.6%)
A member of our family had to cut back hours at work	1655	620 (37.5%)
A member of our family was required to stop working (expect to be called back)	1652	143 (8.7%)
A member of our family lost their job permanently	1654	87 (5.3%)
<b>Health Impact</b>		
Someone in our family:		
Was exposed to someone with COVID-19	1651	241 (14.6%)
Had symptoms or was diagnosed with COVID-19	1652	143 (8.7%)
Was hospitalized for COVID-19	1651	13 (0.8%)
Died from COVID-19	1652	9 (0.5%)

the variability in outcomes, and correctly classified 88.1% of cases. Caregivers who placed greater importance on their child's social or emotional development ( $\beta = 0.42$ ,  $p < .001$ , OR = 1.51 [95% CI: 1.35, 1.69], SE = 0.06) were more likely to send their children back to school/daycare, while caregivers who prioritized child's stress level ( $\beta = -0.20$ ,  $p = .005$ , OR = 0.82 [95% CI: 0.71, 0.94], SE = 0.07), overall concerns for risk of infection and health for child ( $\beta = -0.13$ ,  $p = .002$ , OR = 0.88 [95% CI: 0.81, 0.95], SE = 0.04), and child's ability to obey health regulations ( $\beta = -0.18$ ,  $p < .001$ , OR = 0.83 [95% CI: 0.78, 0.89], SE = 0.03) were less likely to return their child to school/daycare (Table 3).

#### 3.2.2. Caregiver

The overall model was significant ( $p < .001$ ), accounted for 23% of the variability in outcomes, and correctly classified 75.4% of cases. Caregivers who placed greater importance on concern for job productivity ( $\beta = 0.20$ ,  $p < .001$ , OR = 1.22 [95% CI: 1.13, 1.32], SE = 0.04), health regulations in place at caregiver's work ( $\beta = 0.06$ ,  $p = .02$ , OR =

**Table 3**

Regression Analysis of Child Factors.

	B	SE	p
School and/or Daycare Ordinances	0.08	0.03	0.002
Child's Social/Emotional Development	0.42	0.06	0.000
Child's Mental Health	0.15	0.09	0.076
Child's Stress Level	-0.20	0.07	0.005
Child's Happiness Level	0.01	0.07	0.928
Child's Physical Health	-0.03	0.04	0.432
Concern for Risk of Infection/Health for Child	-0.13	0.04	0.002
Child Ability to Obey Health Regulations (e.g., mask, social distance)	-0.18	0.03	0.000
Unable to Receive Child Services Virtually (e.g., physical/occupational therapy)	0.02	0.04	0.579



1.01 [95% CI: 1.00, 1.11], SE = 0.03), and burden on caregiver to watch child/children ( $\beta = 0.16, p < .001$ , OR = 1.18 [95% CI: 1.08, 1.28], SE = 0.04) were more likely to return their child to school/daycare. Similarly, caregivers who placed greater importance on job flexibility ( $\beta = -0.17, p < .001$ , OR = 0.84 [95% CI: 0.78, 0.91], SE = 0.04), availability to watch child at home ( $B = 0.94, p = .04$ , OR = 1.51 [95% CI: 0.88, 1.00], SE = 0.03), caregiver's physical health ( $\beta = -0.11, p = .001$ , OR = 0.89 [95% CI: 0.84, 0.96], SE = 0.03), and overall concerns for risk of infection and health for caregiver ( $\beta = -0.18, p < .001$ , OR = 0.83 [95% CI: 0.78, 0.89], SE = 0.04) were less likely to return their child to school/daycare (Table 4).

### 3.2.3. Systemic

The overall model was significant ( $p < .001$ ), accounted for 16% of the variability in outcomes, and correctly classified 73.6% of cases. Caregivers who placed greater importance on availability of COVID-19 testing in their area ( $\beta = 0.19, p = .001$ , OR = 1.20 [95% CI: 1.08, 1.34], SE = 0.05) and decisions of other families they knew ( $\beta = 0.01, p = .01$ , OR = 1.08 [95% CI: 0.95, 1.07], SE = 0.03) were more likely to return their children to school/daycare. Caregivers who placed greater importance on other family members' physical health ( $\beta = -0.11, p < .001$ , OR = 0.90 [95% CI: 0.85, 0.95], SE = 0.03), concerns for risk of infection and health for another family members ( $\beta = -0.24, p < .001$ , OR = 0.78 [95% CI: 0.73, 0.84], SE = 0.03), and efficiency of COVID-19 test results in our area ( $\beta = -0.14, p = .01$ , OR = 0.87 [95% CI: 0.79, 0.97], SE = 0.05) were less likely to return their children to school/daycare (Table 5).

### 3.2.4. Ranking

The most frequently ranked influential factor in caregivers' decision regarding schooling/daycare was children's social and emotional development, with many caregivers stating it was their first ( $n = 308$ ; 18.7%), second ( $n = 177$ ; 10.8%), or third ( $n = 145$ ; 8.9%) factor they considered. The second most influential factor was caregivers' ability to watch their child at home, with many ranking it second ( $n = 160$ ; 9.7%), third ( $n = 121$ ; 7.4%), or fourth ( $n = 109$ ; 6.7%). Other factors caregivers frequently ranked as being in their top four most important factors to consider included concerns for child risk of infection/health, school/daycare ordinances, job productivity, health regulations in school/daycare, and job flexibility (Table 6).

### 3.3. Stress and confidence

Caregiver reports of stress significantly increased from prior to COVID-19 to current overall stress levels,  $t(1645) = -48.81, p < .001$ , Cohen's  $d = 1.41$ ; however, caregivers felt less stress deciding their child's return to schooling/daycare than their overall current levels of stress during COVID-19,  $t(1640) = 8.80, p < .001$ , Cohen's  $d = 1.00$ . Lastly, caregivers felt less confident in their decision to return their child

**Table 4**  
Regression Analysis of Caregiver Factors.

	B	SE	p
School and/or Daycare Ordinances	0.09	0.03	0.001
Job Flexibility	-0.17	0.04	0.000
Concern for Job Productivity	0.20	0.04	0.000
Caregiver Available to Watch Child at Home	-0.07	0.03	0.035
Long-Term Impact on Career	0.03	0.04	0.365
Caregiver's Mental Health	0.07	0.07	0.316
Caregiver's Stress Level	0.10	0.07	0.178
Caregiver's Happiness Level	-0.07	0.06	0.252
Caregiver's Physical Health	-0.11	0.03	0.001
Concern for Risk of Infection/Health for Caregiver	-0.18	0.04	0.000
Health Regulations at Caregiver's Work	0.06	0.03	0.024
Affordability of Daycare	-0.01	0.03	0.837
Burden on Caregiver to Watch Child/Children	0.20	0.04	0.000
Caregiver's Desire to Have Time Without Child/Children	0.05	0.04	0.202

**Table 5**  
Regression Analysis of Systemic Factors.

	B	SE	p
School and/or Daycare Ordinances	0.10	0.02	0.000
Other Family Member's Physical Health	-0.12	0.03	0.000
Concern for Risk of Infection/Health for Another Family Member	-0.24	0.03	0.000
Availability of COVID-19 Testing in our Area	0.19	0.05	0.001
Efficiency of COVID-19 Testing in our Area	-0.14	0.05	0.010
Health Precautions Taken at Home	0.01	0.03	0.791
Decisions of Other Families We Know	0.07	0.03	0.013
Local Rates of Hospitalization for COVID-19	0.03	0.04	0.419
Perceptions of How "Bad" it is in Our Area	0.06	0.04	0.126
Belief that COVID-19 is not as Bad as News Portrays it	-0.01	0.03	0.796

**Table 6**  
Caregiver Reports of Most Influential Factors in Schooling/Daycare Decision Process.

Ranking	N (%)	N (%)	N (%)
First	308 (18.7%) – Children's social or emotional development	178 (10.8%) – Concerns for child risk of infection/health	165 (10.0%) – School/daycare ordinances
Second	177 (10.8%) – Children's social or emotional development	160 (9.7%) – Caregiver ability to watch child at home	133 (8.1%) – Job productivity
Third	145 (8.9%) – Children's social or emotional development	130 (8.0%) – Health regulations in school/daycare	121 (7.4%) – Caregiver ability to watch child at home
Fourth	132 (8.1%) – Health regulations in school/daycare	109 (6.7%) – Job flexibility	109 (6.7%) – Caregiver ability to watch child at home

to school/daycare than in their overall decision-making confidence,  $t(1642) = 13.91, p < .001$ , Cohen's  $d = 0.40$  (Table 7).

### 3.4. Qualitative feedback

Three broad themes emerged that impacted caregivers' decisions to return their child to school/daycare: 1) child factors, 2) caregiver factors, and 3) systemic factors. Systemic ( $N = 692$ ; 42%) and caregiver ( $N = 685$ ; 41%) factors were the most dominant themes while child factors ( $N = 285$ ; 17%) were mentioned less frequently. Fifteen subsequent themes emerged within the larger themes. Primary themes, subthemes, and example quotes can be found in Table 8.

#### 3.4.1. Child factors

Caregivers reported that child-related factors, such as need for child socialization and quality education, were important for their decision-making process. One participant stated, "The silver lining is that it

**Table 7**  
Comparisons of Stress and Confidence for Caregivers.

	M(SD)	t(df)	p
Stress levels prior to COVID-19	2.79 (0.74)	-48.81 (1645)	< 0.001
Current stress levels (during COVID-19)	3.88 (0.81)		
Current stress levels (during COVID-19)	3.88 (0.81)	8.80 (1640)	< 0.001
Stress level for decision of child's daycare/schooling	3.67 (0.71)		
General confidence levels	3.65 (0.71)	13.91 (1642)	< 0.001
Confidence in decision for child's daycare/schooling	3.30 (1.03)		

**Table 8**  
Caregiver Reports of Most Influential Factors in Schooling/Daycare Decision Process.

Themes	Subthemes	Example Quotes
Child Factors	<ul style="list-style-type: none"> <li>Virtual Schooling</li> <li>Academic Needs</li> <li>Emotional/Behavioral Health</li> <li>Socialization</li> <li>Disruptive in Education/Instability</li> </ul>	<p>"My daughter did not do well with online schooling. It was a fight to get her to do anything..."</p> <p>"My children's mental health suffered immensely last spring and they profoundly struggled with remote learning, especially my child who has a learning disability (expressive language disorder). My decision to return them to [face-to-face] learning is primarily driven by a desire to help them stabilize their mental health."</p>
Caregiver Factors	<ul style="list-style-type: none"> <li>Job Flexibility</li> <li>Work Productivity</li> <li>Parent Works for School/is a Teacher</li> <li>Support Unavailable/Unaffordable</li> <li>Parent Stress/Well-being</li> </ul>	<p>"...My company is about to do massive layoffs. I can't give them another reason to choose me over someone else to let go."</p> <p>"...But I cannot get ANY work done when he is home/awake (he is ~ 19 months old). Work has always been a big part of my identity and I feel awful if I don't give it 100%. But I also feel awful if I don't give my son 100%."</p>
Systemic Factors	<ul style="list-style-type: none"> <li>COVID-19 Prevalence</li> <li>Local Guidelines</li> <li>Community Attitudes/Trust</li> <li>Specific School/Daycare Factors</li> <li>Vulnerable Person in Family</li> </ul>	<p>"My husband and I carefully follow COVID news coverage and pay close attention to the number of cases (and percentage of positive cases) in our area. We also stay [on top] of the latest research regarding COVID and young children."</p> <p>"It has been impossible to trust other adults to take COVID-19 precautions and that has greatly impacted decision-making. There are several adults who are not taking precautions and putting others at risk unnecessarily."</p>

will be good for my daughter to be around other children and interact socially, as she has not had much interaction outside of our home or with anyone else in the last 4 months." Caregivers worried about the instability of the child's education resulting from sporadic school and daycare closures; also, they felt much of their children's virtual schooling lacked structure or was unsuccessful. Additionally, they were not confident in their own abilities to carry out virtual schooling for their child. In contrast, a select few respondents indicated virtual schooling was successful and they were confident in their abilities to educate their child at home.

#### 3.4.2. Caregiver factors

Caregiver factors were also influential in caregiver considerations for their child's schooling/daycare during this time. Many caregivers discussed how this decision was very stressful and impacted their mental health, marriage, and overall well-being. Some female caregivers described how the current hardships had disproportionately affected them. One mother stated, "When considering whether one parent would stay home with our children, [I] was the only parent in consideration, despite my husband and I being equal breadwinners and a career break likely being far more detrimental to my career than his."

Job flexibility and the ability to work from home also was frequently cited as weighing in on the decision-making process. While some

caregivers indicated they had the flexibility to either work or just reside at home, this was not an option for others as they were limited by income restraints, fear of losing their job, and/or being an essential worker. In addition, many caregivers reported that their childcare responsibilities negatively interfered with their work productivity at home. Interestingly, a few participants endorsed being teachers which impacted their perspective in sending their child back to school. One such participant reported, "Education is a priority in our family. As a teacher, I believe that my children will not receive as rich an educational experience at home virtually as they would face to face."

Support for childcare was an important factor in their ultimate decision. While some caregivers could afford care, others relied on support in the forms of grandparents, nannies, neighbors, and small learning pods formed with other community members. Conversely, some caregivers were unable to afford childcare or didn't have any outside support.

#### 3.4.3. Systemic factors

Lastly, caregivers also discussed systemic factors playing a notable role. Most caregivers took into consideration class size, mask guidelines, and school precautions. Many parents were confident in the schools' or daycares' ability to mitigate risk and handle potential exposures. Others also sought guidance from other parents sending their children back for in-person learning or their pediatricians. One caregiver cited, "Our full-time childcare reopened with strict precautions that include 100% outside care, including napping and eating... we talked with teachers and other parents at the center to make sure protocols were being followed and everyone was comfortable."

A few families communicated they trusted their local government to make decisions based on safety. Others, instead, described not trusting governmental decision-making or not trusting other members of their community to abide by safety protocols set in place. Most respondents also weighed their local COVID-19 prevalence (i.e., hotspot areas) and continued to monitor the news due to the changes in cases in their area.

In contrast, the decision was made for other families due to local guidelines set in place. Others made their decision based on their sense of responsibility to their community, electing for virtual learning to limit potential exposures to others in their community. One caregiver noted, "My husband is in healthcare and exposed. In keeping our kids home, we help reduce the exposure of others in school that don't have the option to stay home."

Many participants also described having vulnerable, high-risk family members in their household including pregnant mothers, elderly grandparents, newborns, and children with underlying health conditions. For those families, sending their children back to daycare or school was less feasible.

## 4. Discussion

The purpose of this study was to measure the impact of the ongoing COVID-19 pandemic on families, determine what factors families ranked as being the most significant in their decision process, and measure parental stress related to this decision by exploring quantitative and qualitative caregiver reports. During the period in which the present study was conducted (late summer 2020), a vast majority of caregivers in the sample stated they had a "stay at home" order, COVID-19 had impacted their child's schooling in some way, and it had prevented them from visiting other family members. Furthermore, at the exact time caregivers took the survey, about one sixth of the families had someone exposed to COVID-19. Caregivers ranked factors they perceived as most relevant to their decision on whether or not to return their young child to in-person schooling/daycare (originating from Prime et al.'s risk and resiliency framework; 2020). Common themes arose such that caregivers reported concern about the health of their child and other members of their families, job responsibilities, and risk of infection in their areas as the most significant factors. For many, this decision caused

significant levels of stress and lower levels of confidence.

#### 4.1. Child factors

Overall, caregivers reported child factors (i.e., child adjustment; Prime et al., 2020) were most salient in their decision-making process in quantitative reports. In fact, overlapping with Prime et al.'s framework, parents highlighted concerns with social and emotional development (emotional problems, peer relationships), child stress (emotional problems, behavioral functioning), and virtual learning (academic progress). Additionally, they stated that their child's overall physical health was also important for their decision-making process.

Indeed, the most important factor caregivers rated was their concern for their children's social and emotional development, with greater concern being more indicative of the child returning to in-person schooling or daycare in quantitative reports. Research supports this worry as children who do not attend school have more irregular schedules (e.g., sleep), increased screen time, less physical activity, and poorer diets (Brazendale et al., 2017). These concerns may have been exacerbated when stay-at-home orders were in place and children were discouraged from playing with same-aged peers in activities (e.g., sports, going to the library) that may have otherwise promoted physical and mental well-being (Rundle et al., 2020).

Caregivers were also less likely to return their children to school if they were concerned with their child's stress levels. Parent qualitative responses were consistent with recent research suggesting that the psychosocial stressors associated with prolonged school closures, including frustration, boredom, and inadequate access to school materials, can have negative impacts on children's physical and emotional health (Brooks et al., 2020). In fact, children have shown increased rates of anxiety and depressive symptoms during this time (Duan et al., 2020), as well as reduced daily movement and play behavior (Moore et al., 2020). These fears of caregivers ring true for many children sequestered at home, although long-term consequences for seclusion and altered routines remains unknown.

Caregivers were also concerned that young children struggled with virtual learning (e.g., lack of skills/capacities), thus enhancing student disengagement and placing more of the burden for schooling on caregivers (Burke & Dempsey, 2020; Thompson, 2013; Wang et al., 2014). Similarly, families had varied confidence in their abilities to help their child with schooling or felt that virtual learning was disorganized and not helpful for their child. Previous research has shown that children may experience increased psychological distress and disengagement when they lose school connectedness due to less individual attention (Pikulski et al., 2020). In their qualitative responses, caregivers highlighted the challenges of balancing their child's schooling, attending to their other children's needs, and working.

Caregivers reported that their child's likelihood of infection and overall health were also important factors in decisions to not return their child to school/daycare. While most children have shown milder cases and had better outcomes than most adults, other infections and rare cases of death were still possible (CDC, 2020a; Ludvigsson, 2020). Unfortunately, while physical health risk remained low, the long-term mental health and educational impacts on families also served as a threat that could impact child well-being over time (Donohue & Miller, 2020; Liu & Doan, 2020). Even still, some families decided the physical threat was more prevalent to their decisions.

#### 4.2. Caregiver factors

In addition to child factors, caregivers also recognized their own well-being may be impacted by the schooling decision. Firstly, caregivers stated concerns related to their jobs, health, and circumstances. For example, caregivers reporting more caregiving burden and concerns of job productivity were more likely to return their children to school/daycare. For some employed caregivers, their job flexibility allowed for

their child to remain home; for others, the struggle to balance the competing demands of childcare and working from home during the COVID-19 pandemic largely influenced their decision to return their children to face-to-face learning. Overall, parent stress and well-being emerged as the most frequent family-focused factor caregivers mentioned in qualitative responses (Prime et al. recognized these factors as parenting stress; 2020). Several caregivers acknowledged the compounding mental health strain in their family (with both children and parents negatively impacted).

These findings are important as recent research has found that caregivers who reported higher caregiving burden during the ongoing COVID-19 pandemic had greater parental anxiety and depression (Russell et al., 2020); additionally, 27% of caregivers reported their mental health worsened since the start of the pandemic (Patrick et al., 2020). Moreover, increased levels of internalizing symptoms were associated with higher stress and child abuse potential (Brown et al., 2020; Russell et al., 2020). This overlaps with Prime and colleague's framework in recognizing caregiver mental health symptoms as major factors in child adjustment during the ongoing COVID-19 pandemic (Prime et al., 2020). Caregivers also expressed less confidence with their decision to return their children to school, even with the CDC releasing a statement regarding the benefits of returning to in-school instruction (CDC, 2020b). Added stress from the COVID-19 pandemic in this sample may have also played a role in how caregivers were feeling and handling this decision.

#### 4.3. Systemic factors

While Prime et al. recognized possible "social disruption" factors that may play a role on the overall well-being of families (e.g., confinement, social distancing), caregivers in the present study reported major concerns including school safety regulations, health of family members, rate of COVID-19 in the area, and availability of testing. Health regulations were frequently cited by caregivers as a top factor when weighing their schooling decision (e.g., cleanliness, safety the schools). In their qualitative responses, caregivers also identified factors specific to their school/daycare that influenced their decision (e.g., class size, level of COVID-19 compliance). Additionally, school/daycare ordinances also played a major role, with caregivers stating they wanted to send their child back to school but the school was exclusively virtual learning. Virtual learning was proposed as part of a comprehensive public health strategy to prevent widespread transmission, although the strategy was highly debated (Esposito & Principi, 2020). Moreover, many families felt trapped as this policy forced children to stay home while parents competed with other demands (Harris, 2020).

Several caregivers indicated in their qualitative responses that while low infection rates in their area informed their school/daycare decisions, if COVID-19 prevalence changed, they would reevaluate. This reflected CDC guidelines advising families to assess their household and community risk before deciding whether to return their children to in-person schooling or daycare (CDC, 2020c). Similar to what caregivers in the present study were reporting, fear of catching or spreading COVID-19 has been shown to be higher in regions with the most concentrated number of cases (Fitzpatrick et al., 2020). Given that some families included members categorized as high-risk, caregivers were more inclined to keep children home if they were concerned about a family member's physical health. Caregivers also reported they were swayed to send their children to school/daycare if other families they knew had also made that decision as well. These findings reflect research indicating the impact social networks have on our decision-making processes (Christakis & Fowler, 2009).

Several limitations were present in the current study. First, the researchers recognize that families of color in the United States have experienced the most devastating outcomes from COVID-19 both in their health and financial status (Valenzuela et al., 2020). The respondents of the present study, however, were largely White and with



higher-than-average household incomes (\$100,000+; Semega et al., 2020). Moreover, while the recruitment age was wide (0–12 years), the average age of children discussed in this study were young (~4 years). Several possibilities exist for this White, higher income, and younger sample. One possibility was the recruitment platforms may have disproportionately targeted these family groups, with snowballing yielding recruitment of like-minded individuals (Sharma, 2017). Another possibility was those with the greatest level of economic and health hardships were incapable of participating, were less interested due to feeling trapped rather than feeling as if they had a choice regarding their child's schooling, or were worried about the negative feelings that may arise from discussing a distressing topic (Labott et al., 2013; Springer, 2020). It is possible that the higher sample of children in the toddler stage may reflect the impact of the pandemic on caregivers of younger children (e.g., feelings of stress, lack of confidence) – increasing the likelihood that caregivers would complete a survey on this topic. Lastly, the researchers recognize the historical trauma medical and psychological research has played in harming communities of color (Nuriddin et al., 2020; Scharff et al., 2010). It stands to reason that these families would be less willing to participate in research endeavors such as the present study. This lack of representation of communities of color in COVID-19 research embodies a systemic problem which has required large-scale coordinated efforts to enhance engagement (NIH, 2020). Recognizing the limitations of the sample, it should be noted that findings from this manuscript may not generalize to groups or families who are historically marginalized in the United States. These results also may not reflect the experiences of families with older children, including middle and high school youth over the age of 12. Even still, the current study provided a number of strengths including its use of a mixed-method approach, with quantitative analyses informed by qualitative, open-ended responses from caregivers.

The present study explored factors caregivers weighed when deciding to send their young children back to school/daycare during the COVID-19 pandemic. Caregivers reported a number of concerns which were headlined with child social and emotional well-being. Given the early developmental stage of the majority of the children in this sample, caregivers indicated stress and low confidence in their decision-making process while weighing the health, safety, and psychological and social ramifications of their choice. Continued surveillance of caregiver well-being by school administrators as well as monitoring of long-term consequences of a prolonged altered way of educating, working, and living are necessary.

#### CRedit authorship contribution statement

**Lauren B. Quetsch:** Conceptualization, Methodology, Formal analysis, Resources, Data curation, Writing – original draft, Writing – review & editing, Project administration. **Carrie B. Jackson:** Conceptualization, Methodology, Formal analysis, Writing – original draft, Writing – review & editing. **Harlee Onovbiona:** Formal analysis, Writing – original draft, Writing – review & editing. **Rebecca Bradley:** Formal analysis, Writing – original draft, Writing – review & editing.

#### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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