

PARENTAL STRESS AND THE COVID-19 PANDEMIC

by

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## ABSTRACT

Homeschooling is a historically successful modality of education in a home setting with a parent acting as the primary instructor. Typically, the parents are mentally and physically prepared to transition into a teaching role because they have willingly chosen this route. Amid the unprecedented COVID-19 pandemic, however, parents have been forced to homeschool their children. For this reason, we think it is important to (a) identify stress levels in parents associated with having a "school at home" option chosen for them (b) evaluate certain factors that increase parental stress in parents who are homeschooling their children because of the pandemic, and (c) to ask about their perception of their child's learning and behavior. This should maintain the suspected correlation between parental stress and academic outcomes in children, which will explain the presumed future educational consequences of the pandemic on children. We hope to clarify that homeschooling is not detrimental to child learning; however, homeschooling with high stress and inadequate preparation may be.

## **INTRODUCTION**

Homeschooling is a historically successful option for children to grow academically (Ray 2004; Cogan 2010). It is a modality of education in a home setting with a parent acting as the primary instructor. Typically, the parents are mentally and physically prepared to transition into a teaching role because they have willingly chosen this route (Letzel 2020). Amid the unprecedented COVID-19 pandemic, however, parents have been forced to homeschool their children. For this reason, we think it is important to (a) identify stress levels in parents associated with having a "school at home" option chosen for them (b) evaluate certain factors that increase parental stress in parents who are homeschooling their children because of the pandemic, and (c) to ask about their perception of their child's learning and behavior. This should maintain the suspected correlation between parental stress and academic outcomes in children, which will explain the presumed future educational consequences of the pandemic on children. We hope to clarify that homeschooling is not detrimental to child learning; however, homeschooling with high stress and inadequate preparation may be.

Homeschooling is parent-led, home-based, and flexible, aiming to meet each student's individual needs. Parents who choose to homeschool report wanting to be a more active part of their child's learning and development, feel they have the efficacy to do so sufficiently, and they have the time, energy, resources, and lifestyle which enables it (Green, Hoover-Dempsey 2007). The average family who homeschools notes the following characteristics: (a) education relies on the heavy involvement of one or both parents; (b) curriculum is highly individualized; (c) homeschooling offers flexibility to meet child and family needs (Ray 2004). Homeschooled children benefit from one-on-one attention. They are allowed freedom in their pace and more

flexibility in what they learn based on their interests. They are also likely to have a wide array of educational opportunities outside their homes and communities. They may partake in trips to museums, zoos, businesses, etc., where they gain hands-on experience. Studies show that students from homeschooling backgrounds have higher standardized test scores, grade point averages (GPAs), and graduation rates than traditionally-educated students (Ray 2004; Cogan 2010).

As a response to the COVID-19 pandemic, governments required educational facilities to move to virtual platforms like Zoom and Google Classroom. During this time, 93% of households with school-age children reported participating in some kind of distance learning and provide "school-at-home" (Mcelrath 2020). Contrary to what the similar name may suggest, schooling at home amidst the COVID-19 pandemic is very different than traditional homeschooling. For clarity purposes, we will call this mandated virtual schooling "distance learning." Distance learning is a teacher-led alternative to in-person public or private education where students and teachers are physically separated. Students are asked to remain online and complete work for a set time each day to eventually reacclimate to an in-person classroom setting after the pandemic. A typical day for a distance learner involves logging onto regularly scheduled online classes (Haines 2020). These classes are the same one's students would go to in-person with modified curriculum and online learning assignments. Sometimes students can enter breakout rooms with teachers where they offer more individualized help, but for the most part, teachers instruct students in a group setting.

Distance learning during the COVID-19 pandemic fails to meet traditional homeschooling characteristics which make homeschooling a viable option for parents. In addition to the shortcomings of online education for children, such as inadequate self-regulation and

distractions, it demands too much from parents. First of all, distance learners' parents are insufficiently prepared for the transition and did not desire it. They are forced into teachers' roles while balancing the stresses of their daily jobs or financial concerns from the pandemic. They may be working remotely and do not have the time or energy to help teach their children. Also, they may have insufficient technology or resources for virtual learning or lower perceived efficacy. Lastly, distance learners do not receive the same individualized or flexible schedule that traditional homeschoolers cherish. Their schedule is structured with limited individual instruction. Teachers cannot work one-on-one with students, and parents have to intervene often to make sure their child is on track.

All of these differences overwhelm parents of distance learners and increase stress. As we know, parental stress has significant child behavioral ramifications. A parent's inability to deal with stress negatively influences their child's coping skills, such as managing emotions (Foster et al., 2008). This, in turn, negatively affects child academic performance (Soltis et al., 2016). Stress can cause negative parenting (Hotchkiss, 2009; Hurth-Bocks & Hughes, 2007) which causes poor child self-regulation, emotional problems, and decreased academic development (Spoth et al., 2008).

## **METHODS:**

Participants who indicated that they will complete the survey by choosing “yes” saw the following parts of the survey, in order:

Part 1. Demographic information: Initial demographic information was requested from participants. This took about 4 minutes. If participants chose not to answer a demographic question, they were still able to continue taking the survey. They indicated their parental age from a range (e.g., 18 – 25, 26 – 35, 36 – 45, etc.) Additionally, they indicated their race,

household income, marital status, gender, and the highest level of education. They were also asked to answer the following questions:

Do you homeschool your children? When did you begin homeschooling your children?

Have you participated in distance learning? When did you begin participating in distance learning?

How many children are you a primary caregiver for?

What is your current employment status?

Part 2. Parent stress: Next, we asked parents to complete a survey (Parenting Stress Index, Fourth Edition Short Form (PSI-4-SF) which should have taken approximately 10-15 minutes to complete (as estimated by survey creators). If participants chose not to answer a PSI-4 question, they were able to continue taking the survey. The PSI-4 survey is a 36-item measure that assesses parent-perceived stress related to parenting and identifies parent-child problem areas (Abidin 1995). Items are rated on a 5-point Likert scale ranging from (1) 'Strongly agree' to (5) 'Strongly disagree.' (Abidin 1995). The data was sent and stored in Qualtrics.

Part 3. Eyberg Child Behavior Inventory: The Eyberg Child Behavior Inventory-2 (ECBI) should have taken approximately 5 minutes to complete (as estimated but survey creators). If participants chose not to answer an ECBI question, they were able to continue taking the survey. The ECBI survey features a 7-point intensity scale and a yes-or-no Problem scale to provide insights on adult-child interaction (Boggs et al., 1990). Items are rated on a 5-point Likert scale ranging from (1) 'Never' to (7) 'Always' (Boggs et al., 1990). The data was sent and stored in Qualtrics.

Part 4. Parent Behavior Inventory: Next, participants were asked to take a survey (Parent Behavior Inventory (PBI)) which should have taken approximately 5 minutes. If participants

chose not to answer a PBI question, they were able to continue taking the survey. The PBI survey features a 5-point Likert scale to measure parent behavior for use of young school-age children. Items are ranked from (1) 'Not at all true to (5) 'Very True' (Lovejoy et. Al, 1999). The data will be sent and stored in Qualtrics.

Part 5. Attitudes about learning: This part of the study took approximately 5 minutes to complete. If participants chose not to answer a question about their attitudes about learning, they were able to continue taking the survey. Parents were asked to answer additional open-ended questions regarding their attitudes around distance learning or homeschooling during the COVID-19 pandemic. Those questions included:

What are the pros/cons of post-pandemic learning?

How much time do you spend helping your child with classes? (including interacting with the teacher)

Describe the child's learning atmosphere at home.

Do you believe the effectiveness of teaching post-pandemic is similar to that pre-pandemic?

Part 6. Parent Preparedness: The final part of the study took approximately 1 minute to complete. Parents ranked statements regarding their preparedness for distance learning or homeschooling during the COVID-19 pandemic. If participants chose not to answer a question about their preparedness, they were able to continue taking the survey. Their answers were rated on a 5-point Likert scale ranging from (1) 'Very High' to (5) 'Very low' disagree'. These statements are as follows:

Parent efficacy

Availability to help the child (time)



Sufficient resources (technology, at-home activities, etc.)

Curriculum is individualized

Curriculum is flexible

The transition to distance learning was easy

Post-pandemic learning is a sustainable form of education

Post-pandemic learning is a sustainable form of education

In total, the surveys took about 30 minutes in total to complete. Parents were allowed to discontinue the survey at any time.

At the end of the survey, participants were given a “password” and a link to another survey for a gift card drawing. If they chose to enter the gift card drawing, they were informed that they must include a name and an email address, with the password, in the second survey. The text informed participants that the researchers will see participant names and contact information if they enter the drawing, but that researchers will not be able to connect that information with responses on the first survey.

Once every three weeks, the survey was reposted to social media outlets for more participants.

The survey was available until the end of October 2021 to complete.

## **PARTICIPANTS:**

To be included in the study, participants were required to be (1) parents of children from homeschooling backgrounds who chose to homeschool before COVID-19, or (2) parents of children enrolled in distance learning. In addition, all participants were required to give informed consent.

Participants included 17 individuals who are parents of homeschooled children or distance learners. Of the 17 participants, 16 participants identified as female, and 1 identified as male. Five participants were between the ages of 36-45 and eleven were greater than 45 years old. Initial demographic information was requested from participants (e.g., race/ethnicity, what is your household income?, What is your marital status, what is your highest level of education, how many children are you a primary caregiver for, do you homeschool your children? If yes, how long? Have you participated in distance learning? If yes, for how long? What is your employment status?) Results from the initial demographic information showed the majority of participants (13) identified as White, one participant identified as Native American, and two participants identified as Hispanic. Results also indicated a majority of participants were married (14), two participants were divorced, and one participant was widowed. All participants engaged in some level of higher education; 10 went to some college, six got their masters, and 1 received a Ph.D. Additionally, 6 participants worked full time, 5 worked part-time, and 6 were unemployed.

In regards to questions about their children’s education, the following results were recorded:

	Frequency (#)	How long? (months)
Homeschool	6	30
Distance Learning	10	8

Note: Reported as a mean

**RESEARCH QUESTIONS:**

- Do parents of children in distance learning show higher stress levels than parents of children who were homeschooling pre-pandemic?
- Do stress levels from parents across all groups correlate with attitudes about child learning and parent behavior?

- Do parent and child behaviors change based upon the child's learning environment?
- Do attitudes about learning differ within groups?

## RESULTS:

The purpose of this study was to compare the experience of distance learning to homeschooling for parents, specifically comparing their stress levels, perceptions of child behavior, and parenting behaviors.

The first research question asked if parents of children enrolled in distance learning showed higher stress levels than parents of children who were homeschooling pre-pandemic. To measure parent stress levels, parents completed the *Parent Stress Index*. A descriptive account of participant performance on the *Parent Stress Index* can be found in Table 1. To compare stress levels across parents, *t-tests* were calculated with percentile rank as the outcome variable across three subtests, *Parent Distress* subscale, *Parent-Child Dysfunctional Interaction* subscale, and the *Difficult Child* subscale, as well as the total score, and educational environment (homeschool versus distance learning) as the independent variable.

Figure 1 displays the comparative results for the *Parent Stress Index*. For the *Parent Distress* subscale, the *t-test* showed no significant differences between groups  $t(12) = .749, p = .468$ . For the *Parent-Child Dysfunctional Interaction* subscale, the *t-test* showed no significant differences between groups  $t(12) = -.490, p = .633$ . For the *Difficult Child* subscale, the *t-test* showed no significant differences between groups  $t(12) = -1.798, p = .097$ . Overall, the total score on the *Parent Stress Index* did not show significant differences between groups either  $t(12) = -.250, p = .806$ .

Table 1.

	Parent Distress Subscale Percentile	Parent-Child Dysfunctional Interaction Subscale Percentile	Difficult Child Subscale Percentile	Total Score Percentile
Homeschool	47.00 SD 33.7	35.00 SD 15.68	9.67 SD 5.28	27.67 SD 17.32
Distance Learning	34.75 SD 27.61	41.25 SD 27.96	26.00 SD 21.56	29.42 SD 21.96

Figure 1.

The second question asked: do stress levels from parents across all groups correlate with attitudes about child learning and parent behavior? Again, stress levels were measured with the *Parent Stress Index*, and attitudes about child learning were measured with the Child Behavior Inventory, and parenting behaviors were measured with the Parent Behavior Inventory. To answer this question, *Pearson* correlations were run comparing participant responses across these measures.

For scores related to child behaviors (the Child Behavior Inventory), none of the *Parent Stress Index* subtests significantly correlated with Child Behavior scores ( $r$  range = .076 -.409;  $p$  range = .130 to .787). Similarly, on the Hostile-Coercive Scale for the Parent Behavior Index, there were no significant correlations with the *Parent Stress Index* ( $r$  range = .267-.469,  $p$  range = .090-.356). However, on the Supportive-Engaged Scale for the Parent Behavior Index, there was a significant correlation between Supportive-Engaged parenting behavior and the *Parent-Child Dysfunctional Interaction* subscale ( $r = -.775, p = .001$ ) and the *Difficult Child* subscale ( $r = -.845, p < .001$ ), and the Total Score on the *Parent Stress Index* ( $r = -.816, p < .001$ ). These all indicate

that parents who marked more supportive-engaged-type behaviors were less likely to rate themselves as stressed as a result of parent-child dysfunctional interaction or stressed as a result of a difficult child.

The third question asked: Do parent and child behavior change based upon the child's learning environment? Child behaviors were measured with the *Child Behavior Inventory*, and parenting behaviors were measured with the *Parent Behavior Inventory*. To answer this question, *t-tests* were calculated with percentile rank as the outcome variable across three subtests, *Child Behavior Score*, *Hostile Coercive Score*, and the *Supportive Engaged Score* as well as the total score, and educational environment (homeschool versus distance learning) as the independent variable.

For the *Child Behavior Score* subscale, the *t-test* showed no significant differences between groups  $t(12) = -.069, p = .946$ . For the *Hostile Coercive* subscale, the *t-test* showed no significant differences between groups  $t(12) = 1.385, p = .191$ . For the *Supportive Engaged* subscale, the *t-test* showed no significant differences between groups  $t(12) = .755, p = .465$ .

The last question asked: Do attitudes about learning differ within groups? To measure parent attitudes about learning, parents ranked statements regarding their preparedness for distance learning or homeschooling during the COVID-19 pandemic. A descriptive account of participant performance on this measure can be found in Table 2 which shows that all of the attitudes about learning significantly correlated with the modality of education. Parents who homeschooled their children scored significantly higher on their attitudes about learning (pertaining to factors which positively influence academic success) than parents of children enrolled in distance learning.

Table 2.

	Efficacy	Time Availability	Resources	Individualized Curriculum	Flexibility	Transition	Sustainability
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Home-school	4.0	4.0	5.0	4.0	4.167	4.167	3.667
Distance learning	1.833	3.375	3.250	1.375	1.5	2.0	1.29

**DISCUSSION:**

The unprecedented COVID-19 pandemic changed the American education system, and children were forced to learn at home through online platforms such as Zoom or Google Classroom in distance learning. Despite having the same setting for learning, distance learning is different from traditional homeschooling, a form of education involving a willing and prepared parent serving as the primary instructor. Conversely, distance learning places unexpected pressure on parents to administer their child's education, among other responsibilities. The purpose of my study was to compare the experience of distance learning to homeschooling for parents, specifically comparing their stress levels, perceptions of child behavior, and parenting behaviors to determine the effect of distance learning for families.

In the study, we juxtaposed parents who chose to homeschool versus those forced to homeschool through distance learning because there is an apparent disparity in factors that make homeschooling sustainable such as flexibility, efficacy, time availability, etc. We theorized that the lack of such factors would increase parental stress. Our results show that on all accounts of positive attitudes about learning (statements regarding their preparedness for distance learning or homeschooling), parents of distance learners scored substantially lower than parents who homeschool. This indicates that parents of distance learners are less prepared than those who choose to homeschool.

Our results indicate that parents who homeschool and those with distance learning children scored similarly on the *Parent Stress Index*, suggesting that the pandemic did not substantially affect parental stress. To get a fuller understanding, we need more participants to

ascertain any relationship between education modality and parental stress. The disparities in preparedness did not show adversary effects to parent stress levels.

There was a significant finding that parents who marked more supportive-engaged-type behaviors were less likely to rate themselves as stressed as a result of parent-child dysfunctional interaction or stressed as a result of a difficult child. Supportive-engaged-type behaviors meant less stress from a difficult child or parent-child dysfunctional interaction. There was no significant difference in the level of supportive-engaged-type behaviors of homeschool and distance learning parents. For both, however, if they scored their child higher on the Difficult Child subscale, they were more likely to be stressed due to dysfunctional interactions, creating a positive feedback cycle of negative child behaviors and parental stress. This means that school setting does not alone create negative consequences in parental stress from negative child and parenting behavior. In reality, our results show that the child's difficulty is the most significant indicator for these factors. So child behavior influences parental stress.

There was another significant finding that parents of children enrolled in distance learning determined that this school-at-home option is an unsustainable modality of education, ranking it lower on its efficacy, resources available, flexibility, among other requirements that make homeschooling a viable option for families. Parents who homeschool, on the other hand, see it as an effective and sustainable modality of education and ranked highly on all of these factors. The results support the assumption that long term distance learning could have great ramifications on parental stress and child behavior and learning outcomes.

We would need to take more steps to determine if factors specific to distance learning cause parent-child dysfunctional interaction or stress resulting from a difficult child. To accomplish this, we might need a broader subject pool with more variance in socioeconomic

status, number of children, etc. so that we see more variability in answers. For now, we can only conclude that child difficulty and parent-child dysfunctional interactions influence parental stress. From this and the information from the literature review that parental stress has ramifications, we can see that distance learning is not sustainable with difficult children.

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