
How has online learning affected student engagement in elementary school in the United States?

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Abstract

The transition from in-person to remote instruction has proven to have adverse effects on the learning ability of all students, however the issues seem to be most prevalent amongst younger, elementary school students. They fail to understand or recognize ways they can adapt or adjust compared to their older counterparts. This study was conducted to see where elementary school students have struggled by analyzing the degree to which they struggled in several issues that would be prominent. Data was collected through a series of interviews with the parents of these elementary students (N = 38) as the idea was that it would yield more sincere results when a personal factor was incorporated. Results indicate that remote learning has proven to be difficult for the majority of parents and their students, and on both sides as well. The students have struggled to remain motivated to complete work, while the parents found difficulty in balancing their work life and their child's school life. This study serves as an indicator that there must be adjustments made to the current digital classroom, as the implications of the current system can prove to be detrimental to the learning curve of younger students and well-being of adults.

Categories: Education, Online Learning, COVID-19

Key Words: Motivation, Engagement, Students

Literature Review

Given the circumstances put forth by the onset of the COVID-19 pandemic, several facilities and institutions have had to search for ways to properly adapt. One such institution is the education institution. Most, if not all schools have adopted some form of a blended learning model, or an entirely remote model altogether. However, a plethora of issues stem from the transition to online learning. A major deficit with the online learning model is the inability to effectively translate face-to-face learning into the digital classroom. While the demand for digital learning increases as the effects of COVID-19 continue to be exacerbated, the training teachers receive for teaching online has failed to keep up with the demand (Kenzig, 2015). Time and money appear to be the largest contributors to the deficiency in online learning training, however regardless of whatever the cause may be, it cannot be denied that it results in the online education failing to be as effective or maintain similar levels of quality (Kenzig, 2015). Kenzig, a professor--of Health, Human Services, and Science--herself, also finds that it becomes difficult to uphold interaction and engagement within the digital classroom. When instruction takes place in person, it is relatively simple to keep engagement levels ample; some methods would include engaging in in-depth debate or discussions. However, the same cannot be said for online learning. It is difficult to hold people accountable or determine whether or not they are actively listening and participating online as opposed to if these discussions took place in person. More often than not, students may face technological barriers that hinder their ability to be engaged, or may turn off their cameras, rendering their teachers unable to gauge the student's participation level. Additionally, student-instructor interactions must be absolutely ideal for it to be effective at all. Teachers recorded struggles regarding these types of interactions, as when they attempted to directly translate their course design to the remote model, the students' performance saw declines that would not be seen if they were learning in the classroom (Kenzig, 2015). The students simply could not learn the same way from pre-recorded lessons as they could if they were learning in real-time, where they could ask questions in real time if they were experiencing any trouble.

Evidently, online learning suffers from several shortcomings. However, Kenzig's study appeared to focus primarily on the learning experience of instructors with students of higher education. Older students have more experience with learning as a whole and despite the struggles they may face, they are able to accommodate for these struggles. They receive a health class in high school and as they get older, they receive ways of coping with mental health issues and other conflicts they face in their learning. Older

students are better able to identify the way in which they learn such as, visually or auditory, but younger children depend more on their parents or guardians and their teachers to support them and identify their preferred learning habits. Thus, for elementary school students, issues with online learning are heightened. Elementary school students are far younger and far less experienced with the education system and as a result, may not be able to adapt in the same way older students can, if at all. One major issue elementary school students face is the lack of interaction. A follow up survey to a study done by Burdina, Krapotkina, and Nasyrova found that a major concern with online learning among elementary school students was the lack of socialization (Burdina et al., 2019). Socialization is especially important in younger children as it is a major facilitator of their social and emotional developmental abilities, yet they are void of it. A potential solution proposed was partial cyber socialization, however, the strategy is likely to be ineffective given that elementary school students struggle to navigate the digital classroom on their own due to the complexities that come with technology.

This lack of socialization for elementary school students due to the transition to online learning has led to an increase in mental and emotional harm as they experience more stress, anxiety and fear in these unprecedented times (Singh, 2020). These children, now more than ever, need access to mental health care to address this increase, however, not all children have equal access to these resources. Minorities prior to the pandemic had less access to mental health resources due to cultural and financial barriers. The cultural barrier that prevented some minority children from accessing mental health care is the stigma of it being a sign of weakness to reach for help (Wong et al., 2017). Financially, minority children were not able to access mental health care resources as their families were unable to afford the cost of it, since there is a large wealth gap between minorities and their white counterparts (Chow, Jaffee and Snowden, 2003). Due to these barriers, minorities had to rely on schools to provide them with adequate mental health resources. However, the budget cuts and the transition to online learning has led to schools being unable to provide such resources on the same scale or quality as before (Hoffman and Miller, 2020). In addition to minority children not having equal access to mental health care resources during the pandemic, minority children are experiencing more stress and emotional harm than their white counterparts, as they often have immigrant parents who are not ELL (English Language Learners). As a result, minority children must serve the role of translators for their parents. This responsibility imposes high expectations and pressure on young children, which impacts their mental health negatively (Macfie et al., 2005), and is further amplified with the massive, unfamiliar changes the pandemic has brought. Therefore, minority children have been disproportionately affected by the pandemic in terms of mental and emotional health.

The sudden transition to online learning has not only affected elementary students' mental and emotional health, but is bound to affect their academic adjustment, performance, and motivation. Universally, teachers have a tremendous impact on their students' academic career and identity. Especially for elementary school students, who are adjusting and beginning to form their attitudes about school, teachers can leave a lasting impression on students' perception of school (Valiente, Parker, and Swanson et.al, 2019). For instance, if a teacher is emotionally supportive towards the student, the student may perceive school as a secure and positive environment in which they will feel comfortable engaging in class activities, fulfilling their role as a student, interacting with peers, and learning (Valiente, Parker, and Swanson et.al, 2019). Furthermore, close, non-conflictual relationships between teachers and early elementary school students have been linked to many positive outcomes, such as reducing the risk of poor adjustment, longitudinal academic achievement in math and reading, (Valiente, Parker, Swanson et. al., 2019); encouraging students' intrinsic motivation and self- concept for reading (Guay, Stupinsky, Boivin, et.al, 2019); and encouraging students' autonomous motivation to complete their homework (Katz, Kaplan, and Gueta, 2010). Studies have also found that teacher evaluations and judgements of students' aptitude have are positively correlated to students' grades (Kreigbaum, Steinmayr, and Spinath, 2019): in a separate study where mathematics teachers were asked to estimate 4th grade students' performances on an applied mathematics test, students who were underestimated by their teachers were maladaptive in motivation to improve than overestimated students, on a test administered one year later (Zhou and Urhahne, 2013). However, amidst the COVID-19 pandemic, it may be challenging for elementary students to develop a close relationship with their teachers, as demonstrated by the difficulty of communicating with teachers during online learning (see Figure 1). As previously mentioned, elementary school students who feel close with their teacher are more likely to engage in class (Valiente, Parker, and Swanson et.al, 2019), but again, since developing a student-teacher relationship during the pandemic may be more difficult, keeping students engaged in class may also be difficult. A solution to helping children stay focused and motivated is their parents' supervision and involvement during their child's remote learning. Associations between parental involvement and childrens' academic achievement have been prevalent in literature; for example, parental involvement in their child's academics have been positively correlated to achievement motivation, task persistence, and high vocabulary range during preschool and kindergarten (Fan and Chen, 2001), socioemotional development and achievement later in elementary school (Izzo et.al, 1999), and literary growth (Dearing et.al, 2006). However, this is not a reality for many parents, especially minority parents. In the U.S., about 39% of African American, 32% of Latino, and 36% of American Indian youth under 18 live in poverty, which is double the rate of poverty of non-Latino Whites and

Asians at 14% (American Psychological Association, 2017). As a consequence, the parents of those ethnic minority youth have to work multiple jobs to support their families, so they cannot supervise their child during remote classes. Moreover, disadvantaged schools are underfunded and spend less on teachers and other programs than advantaged schools (U.S. Department of Education, 2011). Nonetheless, although low-SES (socioeconomic status), ethnic minority elementary school students have limited resources that could help contribute to their emotional, behavioral, and academic access, teachers could still have a huge impact on their success.

As stated, parents of ethnic minority youth may not be able to support their child as much as non-minority families. Minority elementary school students and children of immigrant parents are more dependent on their teachers and guardians causing them to struggle more with online school as those they were dependent on are less present in their lives due to the barriers of online learning. There have been various impacts of switching from in-person to remote learning on both parents or guardians and students as collected through a poll by Gallup. Scores may not equal 100 due to rounding. The poll demonstrated that 45%, the majority, of students and parents feel that there has been a significant impact from being separated from classmates and teachers and 44% of both students and families believe that the child's attention span and motivation has taken a major toll on their learning due to remote learning. Sitting before a computer with little to no socialization with those beyond the walls of their homes has caused students to lose motivation or the desire to complete their school work. However, there is also a lack of aid within the homes of young children. The poll reveals that 45% of parents can not aid their child in schoolwork and support them in their learning very well due to the time and work their own job takes up. This emphasizes the lack of care students at home may get when they are isolated from both their peers and teachers, but also from their parents in their own homes. And lastly, 44% of parents state that it has been a major challenge trying to teach their children in a way they are able to understand the content. These statistics reveal that parents are not equipped to support their children as teachers were when there was in-person learning. Not only does this affect the academic performance of students, but also their mental and emotional health. To make online learning more difficult, along with the emotional stress and lack of development elementary school children are blocked from, students and parents face technical issues with remote learning devices or the internet and inability to access educational resources to better support their child.

A large population of students learning online is certainly an unprecedented situation. Since the evolution of technology, no event before the COVID-19 pandemic had provided such an opportunity. Because of how recent the pandemic is, very few studies have examined how online learning has affected students' (both minority and

non-minority, but in particular minority) engagement in elementary school in the U.S. We hypothesize that a) online learning has negatively affected student engagement in elementary school, and even more so amongst minority children in the United States by seeing a decrease in motivation levels and increase in negative behavioral conduct, which could be accompanied by b) an increase in homework struggle and an increase in turning on their cameras, and could be due to c) increase in technology barriers, difficult of parents understanding their childrens' distinct learning styles, and difficulty of parents helping and supervising their children during remote learning.

Remote learning challenges

How much of a challenge have each of the following been in terms of remote/distance learning for your (oldest/youngest) child?

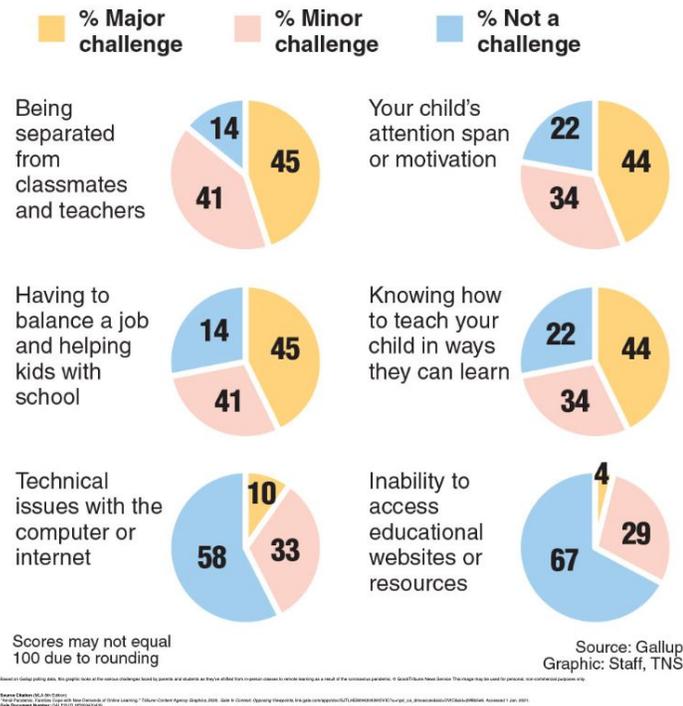


Figure 1: Charts depicting the degree of difficulty (major, minor, or not a challenge) parents have had with several remote learning challenges of parent's responses regarding several remote learning challenges. Sourced from Tribune Content Agency Graphics. *Amid Pandemic, Families Cope with New Demands of Online Learning*

Materials & Methods

In order to test our hypotheses, we made use of both interview and archival data. For interview data, we spoke with parents and older siblings who reside with younger

students enrolled in elementary school to see the level of engagement displayed by the student. Before asking questions specifically about how students are affected by online learning, the demographic of the interviewees was collected. Ethnicity, race, grade, and location was asked about each student to compare how socio-economic issues of elementary school students affect their remote learning. These specific questions we asked are the following:

1. **Do you face technical issues with your remote learning device or internet? How often?**
2. **Are you familiar with the learning style of your student or the best way they can learn and able to use that to support them?**
3. **Are you able to balance your job and your other responsibilities with helping your student with online learning?**
4. **Have you noticed any difference in your child's attention span? Motivation?**
5. **What does your child do with their free time?**
6. **Do they struggle to complete homework?**
7. **Have you noticed any behavioral differences in your child during online learning (or blended) compared to in-person? (ex: difficulty with focusing, less desire to do work, more moody, etc.)**
8. **How do the teachers at school support your child's learning? (ex: office hours, 1-1 discussions with you, videos/visually)**
9. **Does your child struggle with unmuting themselves or turning on their camera? Why is that?**
10. **Anything else you would like to share that would aid us in our research?**

The aforementioned questions were asked in order to assess the levels of performance in elementary students prior to and after the pandemic. Some questions were based on qualitative measures of engagement, such as attention span or motivation, while others tried to draw a comparison between learning in person as opposed to remotely. We interviewed 38 participants and recorded their answers to the questions and made conclusions regarding online learning through their answers. Using their responses, we compiled them and organized them into categories based on what the questions were asking. The categories are the following: Technological Difficulties, Method of Learning, Work-School Balance, Motivation and Attention Span, Homework Struggle, and Behavioral Change. For some of the categories, we omitted a couple of responses as they were ambiguous and did not necessarily fall into a certain answer we were looking for. We then compared individual interviewee's responses to each question to see if any

parallels could be drawn, which would further enhance our hypothesis that online learning has caused a drop in learner engagement amongst elementary school students.

Results

Tech Problems

Of the 38 participants interviewed, 18 of them indicated that they did not experience technology issues, while 15 experienced problems occasionally, and 5 experienced major problems with technology. When taking a look at individual responses, most of the participants that did experience these issues indicated them being a result of poor connection/internet provider or a slow device. The frequency of the technological issues seemed to occur quite frequently throughout each week, with participants saying they experience issues anywhere between 1-3 times a week. In terms of issues with cameras, 28 of the participants said that there was not actually any struggle when it came to turning on cameras; however, for the 10 that did say there were camera struggles, they attributed to the age and shyness of the child.

Method of Learning

When analyzing whether or not the parents were familiar with their child's method of learning (Kinesthetic, Visual, Auditory), the results were as follows; 19 parents reported that their child's primary method of learning is one of the three aforementioned methods, 11 reported that they were not familiar with their child's primary method of learning, and 8 of them reported that they are somewhat knowledgeable on what works best for their child and/or are helping them develop a preferred method of learning. There seems to be many struggles amongst auditory and kinesthetic learners; as these learners learn best from either hearing or working hands-on with information, the transition to remote learning most certainly has served to be a difficult task. There does not seem to be much of an issue with students who learn visually, as the digital classroom meets these standards quite well.

Work-School Balance

Inspection of participants' ability to balance their own work on top of helping their child's academic needs indicates that only 8 of the 38 participants are able to effectively balance their work and their child's school, while 24 indicated that they cannot reasonably find a balance; 6 respondents indicated that they are able to somewhat

find a balance but often find it difficult to do so. In fact, the degree of difficulty has made it so that some parents have had to stop working in order to be able to cater towards their child's school needs; some of the respondents now only have one parent working, while the other stays at home to accommodate. For other individuals, they must bring their child to their work in order to be able to look out for them.

Motivation and Attention Span

Most respondents were in consensus that their child has experienced decreases in motivation and attention span. Only 1 out of the 38 interviewees indicated that their child's motivation and attention span has improved with online learning, while 23 indicated that they saw drops in attention and motivation. 4 participants indicated that there was no change. The remaining 10 interviewees gave responses that were too ambiguous to classify into whether or not there was an increase or decrease in attention span. Most parents indicated that their children are unable to stay in front of the screen for prolonged periods of time, translating to an inability to remain focused or inclined to do work.

Homework Struggle

The interviewees' responses indicated that there was no general consensus regarding whether or not their children struggled with completing homework assignments after transitioning into a remote learning system. 17 parents indicated that their children did not struggle with homework, while 12 indicated their child did struggle and 9 indicated that their children occasionally found themselves struggling with homework. The reason behind the struggle seemed to do with subjects the children were not proficient in and/or whenever projects were assigned.

Behavioral Change

When it came to changes in behavior as a result of switching to a remote system, nearly all interviewees signified that their children underwent a change in behavior, and for the worse. 35 out of the 38 answers reflected a negative change in behavior. The most common change in behavior seemed to be that their child became more moody and/or defiant. The children had also been less inclined to do work or felt overwhelming amounts of stress due to the amount of work on top of not being able to interact with friends.

Additional Information Provided

Overall, there were mixed responses about remote learning. The majority of interviewees who provided additional information found that the structure of remote learning was disorderly, disastrous, and a struggle. The main concerns of participants include financing remote learning assistance, socializing their young children due to lack of in-person contact with peers, managing childrens' mental health challenges (i.e. stress and feelings of moodiness), and helping their children effectively learn. However, some parents do like remote learning and feel that it is good training for them.

Demographics of 38 Interviewees

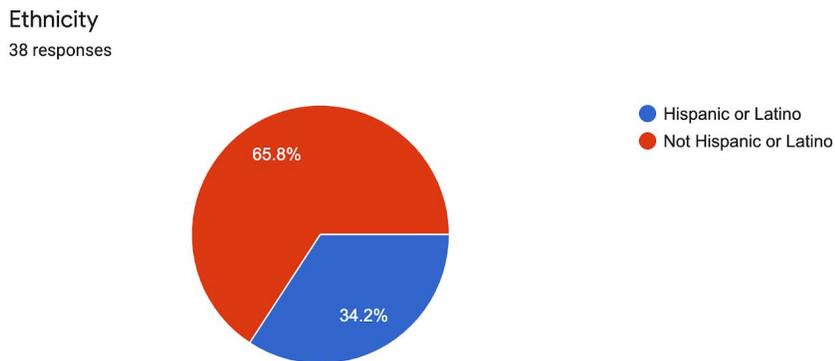


Figure 2: Ethnic breakdown of the participants in the interview.

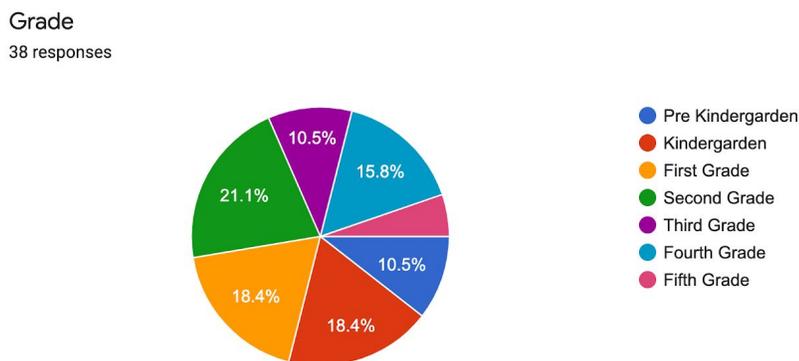


Figure 3: Breakdown of the grade level of the elementary school respondents.

Questions and Summary of Results for 38 Interviewees

<p><i>Question 1:</i> Do you face technical issues with your remote learning device or internet? How often?</p>	<p>18/38 responses don't have problems with technology 14/38 responses have problems occasionally with technology 5/37 responses have major problems with technology</p>	
<p><i>Question 2:</i> Are you familiar with the learning style of your student or the best way they can learn and able to use that to support them?</p>	<p>18/38 responses know their child's best way of learning 11/38 responses don't know their child's best way of learning 8/38 responses sort of know their child's best way of learning or are trying their best in finding it</p>	<p>Note: Though lots of parents said they know the child's best way of learning, a good chunk of those responses talked about it being in-person learning with a teacher.</p>
<p><i>Question 3:</i> Are you able to balance your job and your other responsibilities with helping your student with online learning?</p>	<p>8/38 responses can balance work and helping their child learning 24/38 responses cannot balance work and helping their child learn 5/38 responses are in the middle ground and find it challenging sometimes</p>	<p>Note: Those who responded they can help their child learn had to do so at the cost of one of the parents quitting their job to parent full-time.</p>
<p><i>Question 4:</i> Have you noticed any difference in your child's attention span? Motivation?</p>	<p>1/38 responses state that the motivation of the child has gone up due to remote learning 22/38 responses state that the motivation and attention span of the</p>	<p>Note: Some of these responses will not be 37 as some responses were ambiguous in the change. Though these responses leaned</p>

	<p>children have gone down during remote learning 4/38 responses state that their has been no change in their child</p>	<p>towards a negative response based on the context of the other answer.</p>
<p><i>Question 5:</i> What does your child do with their free time?</p>	<p>Responses:</p> <ul style="list-style-type: none"> - Play - video games - lego building - use devices (iPad, TV) - Read - Tutoring - Play sport - Homework - Draw - etc. 	<p>Note:</p> <p>A positive of remote learning is that young children are able to delve deeper into their hobbies and pursue what they want. However, this depends on the school and grade, for other students spend their free time doing school work and isolating themselves from family and friends.</p>
<p><i>Question 6:</i> Do they [the students] struggle to complete homework?</p>	<p>17/38 responses state their child does not struggle with the homework given from school 11/38 responses state their children does struggle with the homework given almost all the time 9/38 responses state their children struggle occasionally but not too often with the homework given</p>	<p>Note:</p> <p>Some responses noted that the struggle homework was either subjects they were bad at or when the teachers gave projects.</p>

<p><i>Question 7:</i> Have you noticed any behavioral differences in your child during online learning (or blended) compared to in-person? (ex: difficulty with focusing, less desire to do work, more moody, etc.)</p>	<p>35/38 responses state that their has been a negative change in their child’s behavior 3/38 responses state no change</p>	
<p><i>Question 8:</i> How do the teachers at school support your child's learning? (ex: office hours, 1-1 discussions with you, videos/visually)</p>	<p>Teacher support: - Check-ins with parent through video call, email, Class Dojo, phone calls - office hours with students</p>	<p>Note: A few interviewees mentioned there is not much interaction</p>
<p><i>Question 9:</i> Does your child struggle with unmuting themselves or turning on their camera? Why is that?</p>	<p>28/38 responses state that their children have no struggles turning on camera or unmuting microphone. 9/38 responses state their children do struggle with turning on camera or unmuting microphone</p>	<p>Note: Responses where children were struggling to turn on the camera or unmuting microphone may have had something to do with age or shyness.</p>
<p><i>Question 10:</i> Anything else you would like to share that would aid us in our research?</p>	<p>Positives of remote learning: - best training for parents - learning new skills such as how to use a computer or tablet</p> <p>Negatives of remote learning: - behavioral and</p>	<p>Note: Many interviewees feel that if remote learning was more structured and done well, it could be a huge positive for both students and parents. Concerns parents have are financial, social, and academic.</p>

	<p>psychological changes in students such as increased moodiness and stress</p> <ul style="list-style-type: none">- some students NEED face-to-face learning- not everyone is able to adapt quickly to the new style- lack of organization and structure in learning- increased frustration and impatience in teachers- not enough engaging activities- Never enough time for class to interact- struggle with using google classroom- distractions during online learning and background noise- lack of community- anxiety in being social in-person after being online for extended amount of time- scheduling issues for parent to be with child as they learn- sitting in front of a screen for most of the day is damaging for children- struggle with paying for remote learning assistance	
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Discussion

The main purpose of our study was to examine the effects of the transition from in-person to remote, online learning, as a consequence of the COVID-19 pandemic, on minority students' engagement in elementary school in the U.S. By analyzing variables such as work-school balance (amount of parental difficulty supervising their children during remote classes), method of learning (amount of difficulty understanding childrens' learning styles), technology problems (amount of difficulty with technology), motivation and attention span (level engagement, motivation, and attention), homework struggle (amount of difficulty students find homework to complete), and behavioral change in elementary school minority students, this study provided insight on how significant of a toll the pandemic has taken on those who are just beginning school. Additionally, this study theorizes the impact the challenges racial minorities more frequently experience- such as low socioeconomic status- may have on child engagement during this time of remote learning.

As hypothesized, there certainly was a decrease in student engagement amongst elementary school students when it came to the transition to the remote learning system. The variables that were particularly significant in our study include work-school balance, motivation/attention span, and behavioral change. To reiterate our results, 24/38 participants, composed of parents or older siblings of elementary school students, indicated that they could not reasonably find a balance between working and helping out their children with remote learning; some have had to accommodate this by leaving work or bringing their children to their workplaces. In addition, 23/38 participants saw decreases in their childrens' attention spans, particularly decreased focus and ability to do work or stay in front of their screens prolongedly. 35/38 participants noticed negative changes in their childrens' behavior, including defiance, stress, and moodiness. These results are particularly important because previous research has suggested that teacher support/proximity and/or parental involvement positively correlates with student achievement, motivation and engagement (Fan and Chen, 2001; Valiente, Parker, and Swanson et.al, 2019). However, due to the inability of full, in-person teacher supervision of students during the COVID-19 pandemic, parents have had to take on the responsibility of both caregiver and teacher. The plethora of parent responses indicating that they struggle managing both work and child remote learning suggests that low-income families may have to sacrifice meeting their childrens' academic and motivational needs in order to support their families. As the American Psychological Association states, minorities, especially Non-white Hispanics and African Americans,

constitute a majority of those of low socioeconomic status (American Psychological Association, 2017); according to our demographic figures, a total of 21% of our participants were minorities (American Indian/Alaskan Native, Asian, Latino, Black, and Mexican). Our results, which saw decreases in motivation/attention spans and increases in negative changes of behavior in minority students in elementary school, thus could be attributed to lack of or minimal parental involvement in child learning, due to parents trying to make ends meet. Exceptions to this may be if parents are making accommodations for their childrens' remote learning, such as leaving work or bringing children to their workplaces, as some participants indicated.

As with all studies, there exists limitations within ours as well. While our study reached a diverse demographic population, most of the participants were concentrated in either the White or Hispanic population; our samples for Black/African American and Asian students are likely not enough to be able to generalize results for their respective populations. Additionally, interviewee responses may have been biased given their knowledge of being interviewed; they may have answered in ways that would skew the data in favor of what the researchers wanted to see. The final limitation that may have existed within our study could arguably be the sample size. If we were able to conduct the study over a longer period of time, we may have been able to garner more responses, allowing us to strengthen our findings and provide further support/refutations for our hypotheses. However, given that the data was collected through a question and answer interview format, the data may have been sufficient given that it has become increasingly difficult to schedule interviews with the ongoing pandemic. Additionally, giving the participants the benefit of the doubt, the interview format would generally yield more sincere results since it gives the participants free reign on what they are able to answer.

Despite the limitations within our study the topic of minority elementary school student engagement is important to explore as the pandemic continues because there are numerous studies done on the impacts of engagement pertaining to the general population, but there appears to be a gap on exploring the connections between race and this engagement. This study was aimed to help close this gap as much as possible since any amount of data collected on this topic would help make future improvements to address the problems that come with online learning.

There are several future implications that can stem from our study. One such implication includes making adjustments to the current remote learning platform to make it more amicable for elementary students; having hardly any experience with actual school on top of now having to learn it all through unfamiliar platforms only exacerbates the problem, and seems to be an issue that only the education system themselves can improve on. This is especially apparent given that most parents are unable to make adjustments/improvements themselves as they must also be able to focus on their work as

well. Possible methods include adjustments to the curriculum to accommodate more for the social and emotional needs for the children. It may be feasible to do so by implementing these aspects of development within the learning environment instead of making it incredibly work intensive.

On the other side, improvements can be made by focusing on teachers. Teachers have been found to suffer from stress and pressure and it has had adverse effects on their ability to teach in the digital setting (Makarenko & Andrews, 2017). A learning environment in which both the students and teacher are struggling to adapt fosters an environment where it becomes increasingly difficult and maybe even near impossible to learn effectively. It may very well be beneficial to enlist some system that is able to take into account the mental health and well-being of teachers in order to ensure they are able to give their best. Since the classroom is now digital, it may be possible to pair teachers together; having anywhere between 2-3 teachers in a classroom as opposed to 1 would allow for the teachers to be able to look out for one another and aid one another in the difficult setting. It may also make creating lesson plans that are more friendly towards the students achievable when there is more than one point of view being imposed.

Other researchers can take our study and keep the variables more or less the same, but work on having ample samples amongst all populations in order to be able to generalize results and have more concrete findings. They may also look to use the same questions, however make them measurable in a quantitative way in order to run statistical tests like the ANOVA test; for example, they would be able to see whether there is a significant difference between whether one specific racial/ethnic group struggles with one aspect of remote learning more than the others. If any statistically significant differences are shown, further inspection can be done to find any sort of association as to why the results are the way that they are. Attaining any data regarding the issue of online learning engagement of elementary school students has an incentive to be heavily focused on; as we continue to tread through a pandemic, there are no clear indicators as to when the education system can transition back to a consistent in-person system. Until then, elementary school students will continue to struggle to adjust and adapt given that there is an undetermined amount of time as to when they will be allowed to go back. A student's elementary school years are where they should be becoming accustomed to the way education operates, and because they are being deprived of the legitimate experience, their foundation for understanding will continue to be substandard and pushed back.

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