Covid-19 online Learning: Characteristics and Perceptions of Newly Struggling High School Students

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ABSTRACT

COVID-19 ONLINE LEARNING: CHARACTERISTICS AND PERCEPTIONS OF NEWLY STRUGGLING HIGH SCHOOL STUDENTS

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Northern Illinois University, 2023
Daryl Dugas, Ph.D., Director

The COVID-19 pandemic caused worldwide closures of schools resulting in a sudden shift to online instruction for a large population of students. For many students, this shift caused a decrease in academic performance. This four-paper dissertation explores the impact of this shift on newly struggling high school students. These students earned a D or F as their final course grade in two or more classes during the first semester of 2020 online learning but earned zero or one D or F final course grade during the first semester of 2019 with in person instruction.

Using a correlational research design, the first paper explores whether the demographic characteristics of gender, racial/ethnic minority status, low household income status, and special education status were associated with decreased academic outcomes among newly struggling high school students. Findings suggest that students from low-income households were impacted more by the shift to online learning than students from non-low-income households. Conversely, while special education students did see an increase in the frequency of D and F final course grades between semesters, it was a significantly lower increase than their newly struggling sample group peers.
Through data collected from focus groups interviews, the second paper seeks to understand the perceptions of newly struggling high school students regarding their academic struggle with the shift to online learning during the pandemic. An overarching theme generated from the focus group data was a struggle with motivation. A subtheme generated from the data was a loss of connection with teachers and peers that contributed to participants’ struggle with motivation.

The third paper is a research brief for the quantitative portion of the study. The fourth paper is a research brief for the qualitative portion of this study. The purpose of these briefs is to provide a concise, nontechnical summary of the key findings and takeaways from this study for educators and educational leaders.
ACKNOWLEDGEMENTS

There are many who helped me along the way on this journey. I want to take a moment to thank them. First, I wish to thank my dissertation chair. His guidance, support, and feedback were invaluable. I also could not have undertaken this journey without my defense committee, who generously provided their expertise. Additionally, I am grateful for the generous support of Northern Illinois University’s Dissertation Completion Fellowship, which financed a semester of my research.

Lastly, nobody has been more important to me in the completion of this project than my family. Thank you for your unwavering support for this work and for always supporting me when my curiosity calls and another adventure awaits.
DEDICATION

For the focus group participants in this study, so your voices are heard.
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CHAPTER 1: INTRODUCTION

The school environment has been radically transformed by online learning (Bernard et al., 2004; Hart et al., 2019; Ya Ni, 2013). Those who advocate for online learning believe it has the power to break down barriers for students while offering increased flexibility, convenience, and more customized learning when compared to traditional in person instruction (Cheng-Chia & Swan, 2020; Harasim, 2000; Ya Ni, 2013). However, there are also concerns about the quality of the online courses being offered and the ability of these courses to meet the academic and psychosocial needs of students as effectively as in person classes, particularly adolescents. This may lead to some students struggling more in an online environment than with in person instruction (Ellis et al., 2020; Hara & Kling, 2001; Maki & Maki, 2002; Marques de Miranda et al., 2020; Picciano et al., 2012; Scott et al., 2020; Shah et al., 2021; Ya Ni, 2013).

Despite these concerns, there is a limited research base on the effectiveness of online learning. Additionally, most of this research has focused on college and university courses (Chigeza & Halbert, 2014; Cox, 2013; Hart et al., 2019; Means et al., 2013; Nguyen, 2015; Paul & Jefferson, 2019; Ya Ni, 2013). The literature that does exist reports inconsistent findings and, in the view of many researchers, is also problematic, particularly in the limited populations selected for comparisons that include primarily only students who successfully complete the course (Atchley et al., 2013; Driscoll et al., 2012; Hart et al., 2019; Means et al., 2013; Nguyen, 2015; Paul & Jefferson, 2019; Schachar & Neumann, 2010; Ya Ni, 2013).
The lack of studies that include students who are unsuccessful in online courses is an area of notable concern due to the higher student attrition rates in online courses. Student dropout rates are 10 to 20% higher in online learning than in a traditional in person learning environment (Capra, 2011; Herbert, 2006; McLaren, 2004; Moody, 2004; Youngju et al., 2012). However, most of the studies that have been done on educational outcomes of online courses only examine outcomes for students who have completed the course. While this research does provide important empirical evidence on the impact of online learning for students who successfully complete these courses, it leaves the impacts and experiences of those students who had the least positive outcomes in online courses unexplored and largely unheard (Youngju et al., 2012).

This omission is especially salient with the widespread shift to online learning during the COVID-19 school closures. In the spring of 2020, the World Health Organization (2020) declared the COVID-19 outbreak a global pandemic. To mitigate the spread of this novel virus, governments around the world enacted stay-at-home orders, closing nonessential businesses and schools (Wu et al., 2020). These school closures caused an immediate shift from traditional in person classroom instruction to fully online instruction. Most districts had little opportunity to properly implement the shift to remote learning (Burgess & Sievertsen, 2020; Murat & Bonacini, 2020). Teachers were forced to adjust their teaching methods in a matter of days with little to no professional development in effective online instructional pedagogy. The lack of professional development significantly decreased the likelihood of this mode of instruction being effective for students (Chiu, 2022; Chiu & Churchill, 2016; Ingvarson et al., 2005). Each of these factors contributed to an unprecedented disruption to student learning across the globe (Andrew et al., 2020; Anger et al., 2020; Burgess & Sievertsen, 2020; Grewenig et al., 2021; Murat & Bonacini, 2020; UNESCO, 2020).
The full impact of this disruption remains uncertain and the voices of those who were unsuccessful with online learning remain largely unheard (Yates et al., 2021). This four-paper dissertation is an attempt to begin to understand these impacts more fully and to give voice to those for whom this shift to online learning was not effective and resulted in decreased academic outcomes.

The first paper explores whether the demographic characteristics of gender, racial/ethnic minority status, low household income status, and special education status were associated with decreased academic outcomes among newly struggling high school students. The second paper describes the perceptions of newly struggling high school students regarding their academic struggle with the shift to online learning during the pandemic. The third and fourth papers are research briefs for the quantitative and qualitative portions of this study, respectively. The purpose of these briefs is to provide a concise, nontechnical summary of the key findings and takeaways from this study for educators and educational leaders.

Taken together, these four papers add to the research base on this topic and offer insights into the impact of online learning on newly struggling students to help educational leaders make effective, research-informed decisions about online learning going forward.
CHAPTER 2: THE IMPACT OF ONLINE LEARNING DURING THE COVID-19 PANDEMIC FOR NEWLY STRUGGLING HIGH SCHOOL STUDENTS ¹

Abstract

The COVID-19 pandemic caused worldwide closures of schools, resulting in a sudden shift to online instruction for a vast number of students. For many students, this shift caused a decrease in academic performance. This study was conducted to explore whether particular demographic characteristics were associated with decreased academic outcomes for newly struggling students as well as to determine whether there was a relationship between these demographic characteristics and the frequency of D and F final course grades. Student final course grades were collected from a midwestern United States high school’s student information system. The data were used to compare academic performance between the fall semester of 2019 during in person learning and the fall semester of 2020 when the COVID-19 pandemic resulted in school closures and a shift to online learning. Correlational analysis was used to answer each of the research questions. The findings from this study suggest that there was a significant relationship between low household income status and status as a newly struggling student. Additionally, this study suggests a significant relationship between low household income status and an increased frequency of D and F final course grades between semesters when compared with sample group peers. Conversely, while special education students did see

¹ This chapter is under review by Online Learning Journal (OLJ).
an increase in frequency of D and F final course grades between semesters, it was a significantly lower increase between semesters than their newly struggling sample group peers.

Introduction

On March 16, 2020, the World Health Organization declared the COVID-19 outbreak a global pandemic. To mitigate the spread of this novel virus, governments around the world enacted stay-at-home orders, closing nonessential businesses and schools. These school closures caused a sudden and immediate shift from traditional in person classroom instruction to fully remote online instruction. Teachers were forced to adjust their teaching methods in a matter of days. Most districts had little opportunity to properly implement the shift to online and remote learning (Burgess & Sievertsen, 2020; Murat & Bonacini, 2020; Vu et al., 2020). This resulted in an historical and unprecedented disruption to student learning across the globe (Andrew et al., 2020; Anger et al., 2020; Burgess & Sievertsen, 2020; Grewenig et al., 2021; Murat & Bonacini, 2020; UNESCO, 2020; Wu et al., 2020;).

Though online learning is not new, the implementation of online learning due to the pandemic was a sudden and unexpected experience for students who normally receive in person instruction (Yates et al., 2021). Furthermore, teaching shifted to online learning on an untested and unprecedented scale (Burgess & Sievertsen, 2020). Many parents with school-aged children are now concerned that their children have lost academic ground due to the learning disruptions
caused by the COVID-19 school closures (Horowitz, 2020; Yates et al., 2021). The full impacts of this disruption remain uncertain (Yates et al., 2021).

**Review of Related Studies**

The school environment has been noticeably transformed by online learning (Bernard et al., 2004; Hart et al., 2019; Ya Ni, 2013). Those who advocate for online learning believe that it has the power to break down barriers for students by offering increased flexibility, convenience, and more customized learning when compared to traditional in person instruction (Cheng-Chia & Swan, 2020; Harasim, 2000; Hughes et al., 2015; Ya Ni, 2013). However, there are also concerns about the quality of online courses being offered and the ability of these online courses to meet the needs of students as effectively as in person classes. This may lead to some students struggling more in an online environment than with in person instruction (Hara & Kling, 2001; Maki & Maki, 2002; Paden, 2006; Picciano et al., 2012; Shah et al., 2021; Ya Ni, 2013).

Despite these concerns, there is limited research that has been published on the effectiveness of online learning, particularly for K-12 students. Most of the online learning research focuses on college and university courses (Hart et al., 2019; Heppen et al., 2017; Means et al., 2013; Nguyen, 2015; Paul & Jefferson, 2019; Tate & Warschauer, 2022; Ya Ni, 2013). The literature that does exist is inconsistent and, in the view of many researchers, also problematic (Atchley et al., 2013; Driscoll et al., 2012; Hart et al., 2019; Means et al., 2013; Nguyen, 2015; Paul & Jefferson, 2019; Rice & Dykman, 2018; Schachar & Neumann, 2010; Tate & Warschauer, 2022; Ya Ni, 2013). Scholars who find the research problematic contend that many of the studies suffer from weak design, particularly in the populations used for comparisons, invalid comparisons between variables that determine cause and effect, the
treatments used, samples that were not randomly selected, a less than robust validity and reliability of the instruments used to measure effects, as well as the choice of statistical techniques used to analyze the data (Nguyen, 2015; Paden, 2006). Bernard et al. (2004) contend that these design issues decrease confidence in the accuracy and generalizability of the studies’ results.

Recent research has shown that the academic performance of K-12 students who are enrolled in fully online classes is lower at statistically significant levels than K-12 students enrolled in in person classes. Students in online courses typically perform anywhere from -0.10 to -0.30 standard deviation (SD) lower than students enrolled in in person courses (Tate & Warschauer, 2022). Students from low-income households, as well as minorities, experience the greatest performance gap when in enrolled in an online course (Hart et al., 2019).

Heppen et al. (2017) studied 1,224 ninth-grade students from across 17 Chicago high schools enrolled in an algebra credit recovery course. Students were randomly assigned to either an online or in person credit recovery course. The students assigned to the online course scored lower on an algebra posttest than their in person peers. Additionally, the online students were less likely to receive course credit and reported more difficulty with the course than their in person peers.

An area of particular concern that has been identified in online learning is the attrition rate of online students versus students enrolled in traditional in person classes (Rice, 2016). Student dropout rates in online learning are much higher than in a traditional in person learning environment. The dropout rate for online courses is 10 to 20% higher than traditional classroom courses (Capra, 2011; Herbert, 2006; McLaren, 2004; Moody, 2004; Youngju et al., 2012). However, most of the studies that have been done on educational outcomes of online
courses only include students who have completed the course. Those who were unsuccessful in the course and withdrew have generally not been included in the results. Therefore, the findings of successful educational outcomes in these studies have often been based on an exclusion of data from students who had the least positive outcomes in online courses (Youngju et al., 2012).

For example, McLaren (2004) compared persistence and performance measures from the five semesters of online and traditional sections of a required undergraduate business statistics course. Her findings indicated that there was a significantly lower persistence and completion rate for students in the online classes as compared to those in the in person classes. Though including attrition rate in online courses as an area where further research was needed, when sharing her findings on performance efficacy for students, McLaren (2004) based her findings on final grades from only those students who completed the course, thereby eliminating the students for whom the online course was not effective. Based on this analysis, she determined that, “while there are significant differences in persistence between the two cases, accomplishment of the learning objectives, as measured by the final grade in the course for those students who persist, is independent of the mode of instruction.” (p. 7).

While this approach does provide important empirical evidence on the impact of online learning when compared with in person learning for students who successfully complete these courses, it leaves the impacts and experiences of those students who were unsuccessful unexplored. In other words, the majority of research that has been conducted to date has left the voices of those who were unsuccessful largely unheard.

Previous research has demonstrated that demographic characteristics can have an impact on student achievement. However, due to the very new and ongoing nature of the COVID-19 pandemic, there is little research to determine whether there are demographic characteristics that
are more highly associated with academic struggle pertaining to online learning during pandemic-specific school closures. Additionally, much of the research that has been published has come from countries other than the United States (Burgess & Sievertsen, 2020; Cole & Espinoza, 2008; Kaur et al., 2010; Nasir, 2012; Sirin, 2005; Yates et al., 2021; Yousefi, 2010).

Using the lens of demographic characteristics, this study sought to bridge this gap in research by specifically exploring whether there is a relationship between demographic characteristics and academic outcomes in a group of newly struggling students during the shift to online learning that resulted from the COVID-19 school closures.

**Research Questions**

Newly struggling students are defined in this study as those students who earned a D or F as their final course grade in two or more classes during the first semester of 2020 online learning but earned zero or one D or F final course grade during the first semester of 2019 with in person instruction.

The purpose of the study was to explore whether particular demographic characteristics were associated with newly struggling students as well as to determine whether there was a relationship between these demographic characteristics and the change in frequency of D and F final course grades.

Research Question 1 – To what extent do student gender, racial/ethnic minority status, low household income status, and special education status predict a student’s status as a newly struggling student?
Research Question 2 – Is there a significant relationship between gender, racial/ethnic minority status, low household income status, and special education status and the change in frequency of D and F final course grades for newly struggling students?

**Study Design**

This study followed an action-oriented design. In an action-oriented study, the research can inform practice, programs, and policies while also contributing to the broader scientific knowledge base (Small & Uttal, 2005). This methodological framework provides the researcher the opportunity to study and collaborate with stakeholders on complex, real-world issues identified by the key stakeholders. An area of concern identified by both district and building administration for this study was an increase in newly struggling high school students.

This study employed a correlational research design to assess the impact of online learning during the pandemic for newly struggling students as well as to identify patterns, themes, and significant relationships within and between demographic characteristics. Students’ course grades for the identified semesters were collected for analysis from the district’s student information system. The data were used to measure academic performance and to compare this performance between in person learning and online learning.

Regression analysis was conducted for each of the key demographic characteristics in the sample group to determine whether there was a significant relationship between each variable and a student’s status as a newly struggling student. Additional analysis was conducted to explore whether there was a significant relationship between demographic variables and the frequency of D and F final course grades.
The independent variables in this study are gender (female or male), racial/ethnic minority status (yes or no), low-income household status as measured by participation in the federal free/reduced lunch program (yes or no), and special education status (yes or no). The dependent variables are newly struggling student status (yes or no) as determined by final course grades during the first semesters of 2019 and 2020 respectively and change in number of D and F final course grades between the 2019 and 2020 semesters.

Methodology

Study Setting

The high school selected for this study was in a suburban school district in the midwestern United States. Prior to the COVID-19 school closures, this school did not have any fully online courses where students completed their schoolwork remotely. Two years prior to the COVID-19 school closure, the school did begin to offer two blended-learning courses where students attended class in person three days per week and had an open period the other two days of the week where they completed work online. During the first semester of the 2020-2021 school year, this school provided only online learning opportunities to students because of the COVID-19 pandemic school closures.

Population and Sample

Participants for this study were drawn from a group of just over 1,100 high school students. The participant group consisted of newly struggling students who attended the selected high school during both the 2019-2020 and the 2020-2021 school years.
The overall high school population is 80% White, 9% Hispanic, 3% Black, and less than 2% for each of the other racial groups. The high school dropout rate as well as English Language Learner percentage were low at 2%; 12% of the population received special education services. The low household income rate, as determined by participation in the free/reduced lunch program, was 19%. The per-pupil expenditure was $12,920 per student.

State and local standardized testing was paused during the COVID-19 school closures, resulting in a lack of availability of that data. Therefore, to identify newly struggling students, overall course grades for both the first semester of 2019, which was in person, as well as the first semester of 2020, which was online, were analyzed. A total of 130 students (10.9% of the overall school population) met the criteria of newly struggling for this study. Table 1 presents demographic information for newly struggling students, for not newly struggling students, and for the combined sample.

For Research Question 1, a single binary logistic regression was conducted using the combined sample of 1,100 students to determine the relationship between each demographic characteristic and status as a newly struggling student. For Research Question 2, the increase in the number of D and F final course grades between the two semesters was calculated for students identified as newly struggling. An ordinal logistic regression was conducted using this sample of students to determine whether there was a relationship between demographic variable and increase in frequency of D and F final course grades for newly struggling students.
Table 1

*Distribution of Demographic Characteristics for Sample*

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>Newly struggling</th>
<th>Not Newly struggling</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td>N</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>57</td>
<td>43.8</td>
<td>531</td>
</tr>
<tr>
<td>Male</td>
<td>73</td>
<td>56.2</td>
<td>474</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>100.0</td>
<td>1005</td>
</tr>
<tr>
<td><strong>Racial/Ethnic Minority</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>108</td>
<td>83.1</td>
<td>836</td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>16.9</td>
<td>169</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>100.0</td>
<td>1005</td>
</tr>
<tr>
<td><strong>Low-Income Household</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>90</td>
<td>69.2</td>
<td>807</td>
</tr>
<tr>
<td>Yes</td>
<td>40</td>
<td>30.8</td>
<td>198</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>100.0</td>
<td>1005</td>
</tr>
<tr>
<td><strong>Special Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>108</td>
<td>83.1</td>
<td>903</td>
</tr>
<tr>
<td>Yes</td>
<td>22</td>
<td>16.9</td>
<td>102</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>100.0</td>
<td>1005</td>
</tr>
</tbody>
</table>

The dependent variable for Research Question 2 consisted of seven range levels, with each level indicating the difference in the number of D and F course grades between semesters. Table 2 describes the percentage of cases at each range level.
Table 2

Distribution of Between-Semesters Difference in D and F Course Grades

<table>
<thead>
<tr>
<th>Increase in Number of D and F Course Grades Between Semesters</th>
<th>N</th>
<th>% of Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>13</td>
<td>10.0%</td>
</tr>
<tr>
<td>2</td>
<td>53</td>
<td>40.8%</td>
</tr>
<tr>
<td>3</td>
<td>23</td>
<td>17.7%</td>
</tr>
<tr>
<td>4</td>
<td>20</td>
<td>15.4%</td>
</tr>
<tr>
<td>5</td>
<td>13</td>
<td>10.0%</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>3.1%</td>
</tr>
<tr>
<td>7</td>
<td>4</td>
<td>3.1%</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>100.0%</td>
</tr>
</tbody>
</table>

Findings

Research Question 1

RQ.1 - To what extent do student gender, racial/ethnic minority status, low household income status, and special education status predict a student’s status as a newly struggling student?

Binary logistic regression was conducted using the full sample to assess the relationship between the demographic variables and a student’s status as newly struggling. The omnibus tests of model coefficients indicated that the model with predictors fit significantly better than the null model ($\chi^2(4) = 12.65, p = .013$). Additionally, the Hosmer and Lemeshow test indicated a good fit of the model ($\chi^2(4) = 1.75, p = .781$).

As can be seen in Table 3, results of this analysis indicated that there was a statistically significant, positive association between low household income status and a student’s status as
newly struggling \((B = 0.550, p = .012)\). Students from a low-income household were significantly more likely to be newly struggling. No other demographic variable significantly predicted newly struggling student status.

**Table 3**

*Logistic Regression Results Predicting Student Status as Newly struggling from Gender, Low Household Income Status, Racial/Ethnic Minority Status, and Special Education Status*

<table>
<thead>
<tr>
<th>Effect</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-2.044</td>
<td>0.146</td>
<td>196.86</td>
<td>1</td>
<td>&lt;.00</td>
<td>0.130</td>
</tr>
<tr>
<td>Student Gender (Female)</td>
<td>-0.338</td>
<td>0.190</td>
<td>3.165</td>
<td>1</td>
<td>.075</td>
<td>0.713</td>
</tr>
<tr>
<td>Low Household Income (Yes)</td>
<td>0.550</td>
<td>0.220</td>
<td>6.269</td>
<td>1</td>
<td>.012</td>
<td>1.734</td>
</tr>
<tr>
<td>Racial/Ethnic Minority (Yes)</td>
<td>-0.190</td>
<td>0.259</td>
<td>0.542</td>
<td>1</td>
<td>.461</td>
<td>0.827</td>
</tr>
<tr>
<td>Special Education (Yes)</td>
<td>0.340</td>
<td>0.264</td>
<td>1.660</td>
<td>1</td>
<td>.198</td>
<td>1.680</td>
</tr>
</tbody>
</table>

**Research Question 2**

RQ.2 – Is there a significant relationship between gender, racial/ethnic minority status, low household income status, and special education status and the change in frequency of D and F final course grades?

There were a total of 50 D and F final course grades out of a total of 861 final course grades for this group in 2019 and a total of 431 D and F final course grades out of a total of 812 final course grades for this group in 2020.

Using the difference between semesters as the dependent variable, an ordinal logistic regression was conducted to determine whether there was a significant relationship between the demographic variables and the between-semesters change in D and F course grades. A comparison of the regression model that included the predictors with the null model indicated
that the former fit significantly better than the latter \( \chi^2(20) = 25.250, p = .192 \). Additionally, a chi-square test of model fit supported the regression model \( \chi^2(86) = 78.649, p = .701 \). The ordinal regression assumption of proportional odds was supported \( (p = .192) \).

As can be seen in Table 4, parameter estimates for the ordinal regression model indicated that among newly struggling students, low household income status significantly predicted the difference in D and F final course grades between semesters \( (B = 0.886, p = .017) \). Therefore, not only were students from low-income households more likely to be newly struggling (as indicated by the results for RQ.2), but among the newly struggling students, those from low-income households also showed a greater between-semesters increase in the number of D and F course grades than their peers from non-low-income households.

### Table 4

*Ordinal Regression Results Predicting Change in Frequency of D and F Final Course Grades Among Newly Struggling Students from Gender, Low Household Income Status, Racial/Ethnic Minority Status, and Special Education Status*

<table>
<thead>
<tr>
<th>Effect</th>
<th>B</th>
<th>SD</th>
<th>Wald</th>
<th>df</th>
<th>p</th>
<th>Exp(B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Gender (Female)</td>
<td>-0.191</td>
<td>0.324</td>
<td>0.346</td>
<td>1</td>
<td>.556</td>
<td>0.826</td>
</tr>
<tr>
<td>Low Household Income (Yes)</td>
<td>0.886</td>
<td>0.371</td>
<td>5.700</td>
<td>1</td>
<td>.017</td>
<td>2.426</td>
</tr>
<tr>
<td>Racial/Ethnic Minority (Yes)</td>
<td>0.096</td>
<td>0.441</td>
<td>0.047</td>
<td>1</td>
<td>.828</td>
<td>0.909</td>
</tr>
<tr>
<td>Special Education (Yes)</td>
<td>-1.071</td>
<td>0.460</td>
<td>5.426</td>
<td>1</td>
<td>.020</td>
<td>0.343</td>
</tr>
</tbody>
</table>

When status as a special education student was considered as predictor, results (Table 4) show that this special education status was significantly and negatively associated with an increase in the frequency of D and F final course grades between semesters \( (B = -1.071, p = .020) \). That is, among newly struggling students, those with special education status showed a
lower increase of D and F final course grades between semesters than their peers without special education status.

Among newly struggling students, there was not a statistically significant relationship between student gender or racial/ethnic minority status and the between-semesters difference in the number of D and F course grades between semesters.

**Discussion**

The purpose of this study was to explore whether particular demographic characteristics were associated with decreased academic outcomes among newly struggling high school students during the COVID-19 pandemic shift to online learning. This study focused on four key characteristics: 1) gender, 2) racial/ethnic minority status, 3) low household income status, and 4) special education status.

From this analysis it was determined that final course grades for students from low-income households were impacted more by the shift to online learning than they were for students who were not from low-income households. Not only were students from low-income households more likely to be newly struggling, they also showed greater increase in D and F course grades between semesters than their sample group peers not from low-income households.

The findings from this study are especially important as they provide further evidence of the escalated impact of the COVID-19 pandemic on low-income households, as is also beginning to be evident in the broader nascent research on this topic. In a report by Dorn et al. (2020), the authors predicted that learning loss would be greatest among students from low-income households. They found that students from low-income households were less likely to have
access to high-quality remote learning from their school. They were also less likely to have a quiet space to work, less access to devices that were not shared, less access to high-speed internet connection, and less parental academic support, all of which are key factors in providing an environment conducive to a remote online learning setting (Dorn et al., 2020; Goudeau et al., 2021).

Additionally, previous research has shown that students from low-income households were more likely to be provided fully remote online learning during the pandemic. Parolin and Lee’s (2021) study that tracked more than 100,000 schools across the United States throughout the fall and winter of the 2020-2021 school year, for example, found that full school closures with remote online learning as the only source of instruction were more common and longer lasting in schools serving primarily low household income students.

In a study of student math and reading achievement scores for more than five million 3rd- through 8th-grade students in the 2020-2021 school year, Lewis et al. (2021) found that achievement scores for students in high-poverty schools were disproportionately impacted by the COVID-19 school closures. In fact, their research shows that students attending high-poverty schools showed more than double the declines of students attending non-low-poverty schools (Lewis et al., 2021).

Conversely, while special education students did see an increase in frequency of D and F final course grades between semesters, it was a significantly lower increase in frequency than their newly struggling sample group peers who did not have a special education designation. Unlike the research that exists on the impact of online learning on students from low-income households, there currently is conflicting evidence pertaining to the impact of online learning
during the pandemic on students receiving special education services as well as the factors that contributed to that impact.

For example, Scott and Aquino (2020) conducted a survey of 605 higher education professionals who work with college students with disabilities to learn more about the challenges these students were experiencing with the shift to online learning during the pandemic. Over three quarters of the respondents indicated that, as was seen with students from low-income households, their special education students had difficulty obtaining the needed equipment, particularly wi-fi access, to make the shift to online learning. Respondents also reported that their special education students had more difficulty than their general education peers accessing their online coursework as well as more difficulty in communicating with their instructors. Each of these factors contributed to lower achievement rates for their special education students (Scott & Aquino, 2020).

Conversely, Lupas et al. (2021) studied the academic scores of two cohorts of special education students in the United States. The first cohort consisted of 85 special education students in the 2018-2019 school year prior to the pandemic. The second cohort consisted of 116 special education students in the 2019-2020 school year during the pandemic and online learning. Students in each of these cohorts were diagnosed with attention deficit/hyperactivity disorder (ADHD) as the disability that qualified them for special education status. Lupas et al.’s (2021) analysis found that there was no significant difference in academic outcomes between cohorts, with both cohorts showing significant fall-to-spring academic growth. Based on these results, the authors contend that the move to remote instruction did not have a negative impact on special education students who participated in online learning during the COVID-19 pandemic.
Rice and Dykman’s (2018) review of the literature further demonstrates the inconclusiveness of the research conducted on the efficacy of online learning for students with disabilities. In their review of 20 research articles published between 2014 and 2017, they identified three critical themes. First of all, while it is possible for students with disabilities to benefit from online learning, these benefits are not experienced broadly and often vary by disability type. Second of all, much of the policy and practice in online learning does not specifically address the needs of students with disabilities. Lastly, while they are willing to learn, both teachers and administrators express an inability to provide an optimal online learning environment for students with disabilities.

Rice and Dykman (2018) also identified critical gaps in the literature they reviewed. For instance, very few studies included information as to whether or not students were receiving the accommodations afforded them by their IEPs with fidelity in the online environment. Additionally, there was little included about the preparation and continual professional development for teachers and administrators in effective online learning practices and pedagogy, particularly for students with disabilities.

Paralleling Lupas et al. (2021), the current study indicates that special education students were the least impacted within the newly struggling student group. Lupas et al. (2021) posit that the condensed school day, increased flexibility in schedule, and reduced academic demand may have been factors in the better than expected student achievement scores of special education students during online learning. However, as was evidenced in Rice and Dykman’s (2018) review of the literature, further research is needed to determine the factors that contributed to the diminished detrimental impact on special education students in both Lupas et al.’s (2021) study and the current study to more clearly understand the impact, or lack thereof, for these students.
Conclusion

As research on the impact of the COVID-19 school closures begins to emerge, it is becoming clearer that the persistent inequalities that existed prior to the pandemic for students from low-income households are being intensified by the COVID-19 pandemic. Further research focusing on the specific factors that contributed to the increased impact of online learning on students from low-income households is critically necessary to begin to address these gaps (Lewis et al., 2021).

Furthermore, more research is needed on the impact of online learning for special education students. Current research involving these students presents mixed and conflicting results. By further analyzing the factors that contribute to success for those special education students who are successful with online learning, schools can build on that success for special education students more broadly. Lastly, to ensure that online learning is meeting the needs of all students, further research is needed into the underlying causes of the higher attrition rates in online learning environments.

The COVID-19 pandemic has yet to be completely resolved, resulting in continued impacts on schools and students. It is not yet possible, as of the time of this study, to determine the long-term impacts on student achievement. Future research is critically necessary to delve more deeply into these longer term impacts. It is imperative that legislators and school districts analyze strategies, policies, and initiatives based on this ongoing research to ensure that they are meeting the needs of these students. This study seeks to provide one piece of the multifaceted analysis required to meet that need.
CHAPTER 3: NEWLY STRUGGLING HIGH SCHOOL STUDENTS’ PERCEPTIONS OF ONLINE LEARNING DURING THE COVID-19 SCHOOL CLOSURES

Abstract

The COVID-19 pandemic caused worldwide closures of schools, resulting in a sudden shift to online instruction for students. While these closures impacted students across grade levels, the impacts were felt differently at each of these developmental levels (Marques de Miranda et al., 2020; Scott et al., 2020;). This study focuses on the unique challenges faced by adolescents during the shift to online learning. Specifically, the purpose of this study was to understand the perceptions of newly struggling high school students regarding the sudden shift to online learning during the pandemic. The study focuses on the themes these students referenced when explaining the reasons for why they struggled with classes more during online learning during the COVID-19 school closures than during in person learning prior to the pandemic. Two semi-structured focus groups were conducted with a total of nine newly struggling students from a suburban high school in the midwestern United States. Thematic analysis was used to analyze the data. An overarching theme generated from the data was a struggle with motivation. A subtheme generated from the data was a loss of connection with teachers and peers that contributed to participants’ struggle with motivation. This study focuses on the impact of the COVID-19 school closures on newly struggling students from their perspectives, in their voices, to better understand their perceptions and experiences during the shift to online learning during the COVID-19 school closures.
Introduction

The school environment has been radically transformed by online learning (Bernard et al., 2004; Hart et al., 2019; Ya Ni, 2013). Those who advocate for online learning believe it has the power to break down barriers for students while offering increased flexibility, convenience, and more customized learning when compared to traditional in person instruction (Cheng-Chia & Swan, 2020; Harasim, 2000; Ya Ni, 2013). However, there are also concerns about the quality of online courses being offered and the ability of these courses to meet the psychosocial needs of students as effectively as in person classes, particularly adolescents, which may lead to some students struggling more in an online environment than with in person instruction (Ellis et al., 2020; Hara & Kling, 2001; Maki & Maki, 2002; Marques de Miranda et al., 2020; Picciano et al., 2012; Scott et al., 2020; Shah et al., 2021; Ya Ni, 2013; White, 2020).

Despite these concerns, there is a limited research base on the effectiveness of online learning. Additionally, most of this research has focused on college and university courses (Chigeza & Halbert, 2014; Cox, 2013; Hart et al., 2019; Means et al., 2013; Nguyen, 2015; Paden, 2006; Paul & Jefferson, 2019; Ya Ni, 2013). The literature that does exist reports inconsistent findings and, in the view of many researchers, is also problematic, particularly in the limited populations selected for comparisons that include primarily only students who successfully complete the course (Atchley et al., 2013; Bernard et al., 2004; Driscoll et al., 2012; Hart et al., 2019; Means et al., 2013; Nguyen, 2015; Paden, 2006; Paul & Jefferson, 2019; Schachar & Neumann, 2010; Ya Ni, 2013).

The lack of studies including students who are unsuccessful in online courses is an area of notable concern due to the higher student attrition rates in online courses. Student dropout rates are 10 to 20% higher in online learning than in a traditional in person learning environment.
(Capra, 2011; Herbert, 2006; McLaren, 2004; Moody, 2004; Youngju et al., 2012). However, most of the studies that have been done on educational outcomes of online courses only examine outcomes for students who have completed the course. While this research does provide important empirical evidence on the impact of online learning for students who successfully complete these courses, it leaves the impacts and experiences of those students who had the least positive outcomes in online courses unexplored and largely unheard (Youngju et al., 2012).

This omission is especially salient with the widespread shift to online learning during the COVID-19 school closures. In the spring of 2020, the World Health Organization declared the COVID-19 outbreak a global pandemic. To mitigate the spread of this novel virus, governments around the world enacted stay-at-home orders, closing nonessential businesses and schools. These school closures caused an immediate shift from traditional in person classroom instruction to fully online instruction. Most districts had little opportunity to properly implement the shift to remote learning (Burgess & Sievertsen, 2020; Murat & Bonacini, 2020). Teachers were forced to adjust their teaching methods in a matter of days with little to no professional development in effective online instructional pedagogy. The lack of professional development significantly decreased the likelihood of this mode of instruction being effective for students (Chui, 2022; Chiu & Churchill, 2016; Ingvarson et al., 2005).

Each of these factors contributed to an unprecedented disruption to student learning across the globe (Andrew et al., 2020; Anger et al., 2020; Burgess & Sievertsen, 2020; Grewenig et al., 2021; Murat & Bonacini, 2020; UNESCO, 2020; Wu et al., 2020). The full impact of this disruption remains uncertain and the voices of those who were unsuccessful with online learning remain largely unheard (Yates et al., 2021).
Purpose

To understand the impacts of the shift to online learning more fully, this study sought the perspectives of newly struggling high school students, specifically focusing on the themes these students referenced when explaining the reasons for their struggles. Newly struggling students are defined in this study as those students who earned a D or F as their final course grade in two or more classes during the first semester of 2020 online learning but earned zero or one D or F final course grade during the first semester of 2019 with in person learning.

This study followed a qualitative approach utilizing focus group interviews specifically seeking to answer these research questions:

- What themes do newly struggling high school students reference when explaining their increased rate of academic struggle during the COVID-19 school closures?
- In what ways do newly struggling high school students describe online learning as impacting their motivation?

During these focus groups, nine newly struggling high school students from a high school in the midwestern United States shared their experiences and perceptions of online learning during the COVID-19 school closures. Each of the participants referenced a number of themes when discussing their academic struggle during online learning. However, when participants were asked about their motivation, they provided numerous responses that demonstrated they considered this a major factor in their struggles.
Theoretical Framework

Self-Determination Theory

Ryan and Deci’s (2000, 2020) self-determination theory of motivation (SDT) maintains that there are three psychological requirements for intrinsic motivation: 1) sense of autonomy, 2) competence, and 3) relatedness. Autonomy, in the SDT context, refers to having a sense that an action or behavior is freely chosen by the individual, unrelated to any outside pressure or control. The locus of control is internal (Ryan & Deci, 2000). A sense of competence, in the SDT context, is the belief that the person possesses the knowledge or skill set required to be successful at a task. Relatedness refers to “a sense of belongingness and connectedness to the persons, group, or culture disseminating a goal” (Ryan & Deci, 2000, p. 64).

Of these three psychological needs, there is concern that relatedness is the need that is at most risk of not being met in the online space (Ellis et al., 2020; Marques de Miranda et al., 2020; Scott et al., 2020). Human beings have a deep desire for connection and strong social bonds (Rogers, 1959, 1980, 1994; Ryan & Deci, 2000, 2020). When these connections and social bonds are absent and/or interrupted, motivation is jeopardized (Rogers, 1994; Ryan & Deci, 2000; Shah et al., 2021).

The lack of in person interaction with classmates and teachers during the school closures has the potential to thwart the fulfillment of this need for connection and relatedness (Lynch et al., 2020; Shah et al., 2021). Despite its significant impact on learning outcomes, motivation in online learning has not received the same attention as with in person learning (Chen & Syh-Jong, 2010; Shah et al., 2021). This is relevant for the current study as it explores students’ perspectives on the impacts of online learning during the school closures.
Literature Review

A crucial component in meeting the need for relatedness, whether online or in person, is the social interaction between the teacher and students as well as the student-to-student interactions. It is through these interactions that learning occurs and relationships are built. Through the support and interaction with teachers and peers, students are more likely to achieve goals they would not have been able to achieve on their own (Lynch et al., 2020; Ryan & Deci, 2000; Shah et al., 2021; Vonderwell, 2002; Vygotsky, 1978).

Online learning requires adaptations by teachers, as well as students, for these critical interactions to occur successfully. The effectiveness of these adaptations in a virtual format is a source of much debate (Lynch et al., 2020; Shah et al., 2021; Ya Ni, 2013). Chiu’s (2022) study of 1,200 8th- and 9th-grade students in Hong Kong supports this concern. Through the use of online surveys, Chiu investigated how the three psychological needs of SDT were affected by online learning during the COVID-19 pandemic. Results revealed that students’ perceived relatedness was the primary predictor of their level of motivation and engagement behaviorally, emotionally, and cognitively.

If connection and relationships are not built and maintained, the advantage of online interactions may not be realized. Haythornthwaite et al. (2000) conducted a study on 17 graduate students who began a course in person and then shifted to fully online. The purpose of the initial in person portion of the course was for students to build relationships and establish a sense of classroom community with the goal of transferring those elements to the online portion of the course. The authors found that students who were able to successfully transfer these elements to the online portion of the class had positive outcomes. Conversely, the students who were unable
to successfully transfer these elements and failed to make online connections with other students in the group reported feeling isolated and more stressed.

Vonderwell (2002) interviewed 22 university students about their perceptions of asynchronous communication in their online class. Students reported that they felt uncomfortable communicating with the peers in their class and that they felt frustrated and isolated when they did not receive responses from the other students when posting online, which they stated happened often. These students also felt as though they did not get to know their teacher personally and that their teacher should have had a greater online presence. Students perceived that overall, online communication was less personal (Vonderwell, 2002).

In an online setting, students who feel disconnected from their teacher are more likely to withdraw from the course (Paul & Jefferson, 2019; Ya Ni, 2013). O’Brien and Renner (2002) found that students’ feelings of disconnection from their teacher, regardless of whether the course was in person or online, were a statistically significant variable in students’ likelihood of completing the course. In Rolfe’s (2007) study of 1,200 online college classrooms, students who felt disconnected but who remained in the course were more likely to misread or neglect instructions for assignments or get into a pattern of submitting late assignments. This resulted in these students earning lower grades in the course than those who felt more connected. In their study of 122 undergraduate students, Davies and Graff (2005) determined that students who failed the course interacted significantly less with teachers and peers than those with passing grades. As this research shows, a sense of community and relatedness in an online course is an important factor that affects students outcomes (Herbert, 2006; Lynch et al., 2020; Ryan & Deci, 2000; Shah et al., 2021; Vonderwell, 2002; Vygotsky, 1978).
Throughout the COVID-19 pandemic and the resulting school and business closures, combined with mandated social distancing requirements, maintaining a sense of community and relatedness was difficult in nearly every social context. A sense of relationship and community, particularly with peers, is crucial for healthy adolescent development (Erikson, 1968; Mikami et al., 2017). Yet there has been little research done on the impact the shift to online learning has had on this vital developmental need, particularly with high school students (Paul & Jefferson, 2019; Rovai, 2002). Additionally, the current research has not included the voices of those for whom online learning is ineffective. The experiences and perspectives of the participants in this study will add to both the knowledge base and the much needed research on this topic through the voices of those directly impacted.

**Methodology**

**Research Site and Participants**

The study was conducted in a high school in a suburban school district in the midwestern United States. Prior to the COVID-19 school closures, this school did not offer any fully online courses, although two courses in a hybrid format had been piloted with a limited number of students. During the first semester of the 2020-2021 school year, this school provided only online learning opportunities to students due to the COVID-19 pandemic school closures.

Potential participants for this study were identified through a review of school records to identify those students who were newly struggling, namely those who had two or more D/F grades in the fall 2020 semester and no more than one D/F grade in the fall 2019 semester. In order to be included, students also needed to have been enrolled in the district in both the 2019-2020 and the 2020-2021 academic years. This search identified 130 students who met these
criteria. Invitations to participate in a focus group were sent to each of the 130 sample group students as well as to their parent/guardian. A total of 10 students from the sample group agreed and received parent/guardian permission to do so. One of the students was unable to participate, resulting in a total of nine participants.

The first focus group consisted of five 9th- and 10th- grade students. The second focus group consisted of four 11th- and 12th- grade students. Five of the participants were female, four were male. Two of the students were from low-income households. In a separate analysis, (Webster, 2023) neither gender nor race/ethnicity was found to be correlated with newly struggling students, but low-income household status was found to be correlated. Table 5 presents a brief overview of focus group participants.

**Data Collection**

The data was collected over a one-week period and consisted of two in-person focus group sessions. The focus group times ranged in duration from 60 to 75 minutes. Focus group sessions were conducted in a multipurpose room within the school building that was familiar to students and allowed for the least disruption to their schedules. The focus group setting was both private and free from distractions.

Focus groups followed a semi-structured format in which each group was provided with the same initial prompt but then was guided by the particular responses and concerns raised by participants in each group. Questions were based on data collected in the quantitative portion of the study (Webster, 2023) that found the primary reason for these students’ decreased academic outcomes was an increase in missing assignments as online learning progressed. The focus group
### Table 5

**Overview of Participants**

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Gender</th>
<th>Grade Level</th>
<th>Key Quote About Online Learning Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sarah</td>
<td>Female</td>
<td>9</td>
<td>“When we were online, not being in school, it was really, really hard.”</td>
</tr>
<tr>
<td>Stella</td>
<td>Female</td>
<td>9</td>
<td>“It felt weird to ask teachers for help. It felt more formal because I had to email them instead of asking them in person.”</td>
</tr>
<tr>
<td>Meredith</td>
<td>Female</td>
<td>10</td>
<td>“When we got farther into it and online learning went on longer and longer I started to get bored, less motivated.”</td>
</tr>
<tr>
<td>Sidney</td>
<td>Female</td>
<td>10</td>
<td>“I got a little bit less focused and less determined to actually do stuff… a lot of unmotivation for me to do anything”</td>
</tr>
<tr>
<td>Sam</td>
<td>Male</td>
<td>10</td>
<td>“I’m more of a people person. I’m not really motivated to do the online thing.”</td>
</tr>
<tr>
<td>Delilah</td>
<td>Female</td>
<td>11</td>
<td>“I didn’t feel connected to school when we were online. It didn’t feel like school, it felt like an option.”</td>
</tr>
<tr>
<td>Lance</td>
<td>Male</td>
<td>11</td>
<td>“When we were in person, I was doing everything I needed to do. And then when we went online, my motivation just plummeted.</td>
</tr>
<tr>
<td>Keith</td>
<td>Male</td>
<td>12</td>
<td>“Some people learn by actually doing something rather than just watching a video of a teacher doing it. So there's that, that's just the motivational aspect.”</td>
</tr>
<tr>
<td>Gabe</td>
<td>Male</td>
<td>12</td>
<td>“The social aspect of it, the online classes didn't feel like actual class. It's just with online, it's more, it's such a high grade filter on the personality.”</td>
</tr>
</tbody>
</table>
questions were created to explore the students’ perceptions as to why this occurred using both open-ended general questions combined with questions more directly referencing the psychological requirements outlined in SDT. Focus group questions can be found in the Appendix.

**Data Analysis**

Data analysis was conducted using a thematic analysis approach (Braun & Clarke, 2006; Maguire & Delahunt, 2017). In the first phase, focus group recordings were transcribed and then reread twice to begin to identify patterns and initial impressions from the transcript data. The second phase of analysis consisted of open coding each transcript using NVivo 12 coding software. During this phase of analysis, frequently recurring words and phrases were identified and noted. These words and phrases were then coded and used to begin to identify overarching themes. Upon completion of the coding analyses, phase three analysis was conducted to further clarify themes by looking for points where codes converged as well as where there was divergence. A fourth phase of analysis focused on refining the themes identified in phase three using a two-level analysis of the codes. First-level analysis involved reading the codes for each theme and determining if a clear and consistent pattern was evident (Braun & Clarke, 2006). Second-level analysis consisted of another reading of the entire data set to ensure the themes fit in relation to the overall data (Braun & Clarke, 2006). In the final phase of analysis, themes were refined.
Findings

Motivation

From these multiple levels of analyses, motivational struggle was identified as an overarching theme as to why participants struggled more during pandemic online learning than during in person learning. Additionally, a loss of connection with teachers and peers was identified as a key subtheme that participants described as contributing to their struggles with motivation during online learning. Keith described this struggle as “not having any motivation to actually get up in the morning and do things.” The other members of the group enthusiastically agreed that that is how it also felt for them.

Notably, all of the participants \((n = 9)\) also shared that motivation at the onset of the pandemic and online learning was not an issue. Sam described it this way: “At first I was still really motivated. It's like hey, I'm at home, I've got my own time now and that's pretty cool. This is great!” As the school closures and online learning continued, motivation became more of a struggle. Sam’s initial excitement and motivation waned: “Until we got further into it [the school closures] and then, man, I lost all of my motivation.”

Stella’s experience was similar. At the beginning of the semester she would “wake up at the same time…take care of all my morning stuff and get started with the day,” but by the end of the semester she’d be “wearing my pajamas, have my camera and my microphone off and be making breakfast when I should be online in class.” Sidney also experienced this decline in motivation. Initially she would be logged into class and engaged. However, as online learning progressed she “would just kind of sleep in a lot” and after a while she said she “just wasn’t motivated to login to my classes.”
When the question was posed about why they thought their motivation waned as the school closures persisted, all nine of the participants resoundingly gave answers consistent with the construct of relatedness. Participants identified loss of connection with their teachers \( (n = 7) \) and peers \( (n = 9) \) as the key factors that impacted their struggle with motivation. Gabe described the jarring feeling of this loss of connection:

I think it's more of the fact that we got used to so many years of actually going to school and having that interaction with our friends and our teachers, building up relationships with people. And then like that [snaps fingers] it was just gone.

Sam agreed and summed up the overall sentiment of the participants well. He shared, “I just don't feel like I really had any connection with anyone or anything related to school.”

**Loss of Connection with Teachers**

Several of the participants \( (n = 7) \) in the current study discussed the lack of relatedness they felt with their teacher. Stella spoke about how she felt “a lot less connected” to her teachers and how hard that made it to have any kind of relationship with them. This lack of relationship caused participants to feel not only that they didn’t know their teachers \( (n = 3) \) but that their teachers also didn’t know them \( (n = 7) \). According to Meredith, “I really like talking to my teachers, but I wasn’t able to do that online. I felt like I didn’t really get to know them and they didn’t get to know me.”

This lack of relatedness resulted in some of the participants \( (n = 4) \) feeling devalued, as though the teachers of the classes they were struggling in no longer saw them as people. Delilah spoke about the frustration she felt when teachers “made fun of students or joked about how we are all just icons on their screen, or that we’re all just ceiling fans because that’s all they can see of us.” She wanted the teachers to remember that “we’re real, we’re actual people!”
The lack of relatedness between participants and their teachers had another detrimental impact on their motivation. A majority of participants ($n = 7$) felt that their teachers assumed students were struggling because they were lazy or just not trying hard enough. Participants felt that instead of teachers trying to understand why students who do not typically struggle in school were struggling, the teachers instead merely judged them as lazy. For example, Sarah shared a situation she had with a teacher in a class in which she had fallen behind. Prior to the pandemic Sarah did not typically struggle with staying on top of her school work, so when she started falling significantly behind, her teacher scheduled an online meeting to talk to her about it. Sarah felt relieved to be meeting with her teacher and hopeful that together they would come up with a plan to help her catch up. Unfortunately, the scenario played out much differently:

> When I logged in she immediately was passive-aggressive and angry with me. She was really sarcastic and just kept saying, ‘You should’ve done this work already, it should be done, it’s not that hard.’ I could tell she just assumed that I was too lazy to do it, when in reality I was having difficulty. I was really struggling. So I just gave up.

One critical source of disconnection expressed by these participants was the perception that teachers were conducting classes and setting expectations as though students were still in school. Many participants ($n = 7$) felt that teachers were disconnected from the fact that students were being impacted in many different ways by the pandemic and that learning online was not the same as being in person. Meredith noticed this as a common theme among teachers:

> I’ve heard teachers talking about how it's not that hard to get your assignments turned in. But what they don't take into consideration is the fact that we have stuff going on, all sorts of stuff, that is making things hard…They just don’t get it. I don’t know, it’s just like, why bother?

Lance agreed and had a similar observation. He felt frustrated because online learning “is not normal school” and he really wished teachers would understand that and “stop trying to make it normal school.” Lance felt teachers were disconnected from how different online learning is
and that the expectations and workload teachers put on students during online learning was unrealistic: “The more work you put on kids, the more stressed out they get. The more pressure they feel, the less they do. Why don’t they get that?”

Stella agreed with both Lance and Meredith. As the semester progressed and class expectations increased, Stella began feeling more disconnected from her teacher. This lack of relatedness combined with the pressure of increased expectations made it more difficult for her to stay motivated. As a result, her threshold for what was personally acceptable for a grade decreased: “It used to be like C is the line. I should get my grade up if I get a C, but now I’m like, as long as I pass, at least get a D, I’m good.” Stella went from a student with no D’s or F’s prior to online learning to a student with D’s in four of her six classes during online learning.

**Loss of Connection with Peers**

Another area where all participants (n = 9) felt a loss of relatedness was with their peers. Sam lamented that he was not able to make new friends when classes were online. Even though he “could see their faces” online, there was not “any chance to socialize, no way to get to know people better.” Opportunities like passing periods or lunch in the cafeteria where adolescents most often socialize during the school day were no longer an option. As Meredith pointed out, “There's no time between classes or during the school day to just talk. And people generally don't want to because you're not face-to-face.”

The opportunities to communicate online, when they did occur, were often more a source of anxiety than a source of camaraderie or connection. Sidney commented that “the only time we ever socialized was in breakout rooms and those were awkward as heck. You just kind of were stuck in them.” Similar to the participants in Vonderwell’s (2002) study, the majority of focus
group participants \((n = 7)\) shared how self-conscious they felt speaking in an online setting. Lance referred to being on camera when classes were online as “being in a huge spotlight.” He felt as though the camera “really made you feel like you stand out more than when you’re in a group of people in a room.” Delilah elaborated on this point through her experience with this:

> I think it also made a lot of people not want to turn their cameras on, or when they did turn them on just point them at the ceiling so nobody could see them. I know that’s what I did. I didn’t want to have to constantly think about what I looked like or what other people were thinking about me.

This self-conscious feeling prevented almost all participants \((n = 8)\) from speaking up in class when they had questions or did not understand something, causing them to fall further behind in class. Gabe explained it this way: “If you're actually in class, you can go to a teacher and ask a question. But if you're online you gotta ask your question in front of everyone and then everyone knows you don’t get it.”

Sarah expounded on Gabe’s response, providing deeper context for this “spotlight” feeling. She stated that asking a question in front of everyone while in the “online spotlight” made her feel very vulnerable. Rather than seeing classmates as people to connect with, peers were seen as silent observers, potentially waiting to judge them: “What if this is a dumb question? Am I going to get judged or made fun of? Because that could happen. You could definitely be judged by other kids in the class.” Several of the participants \((n = 5)\) either spoke about or signaled agreement with this experience of being in the spotlight. Sidney described the feeling as “being on stage” and said that it definitely had an impact on her grades because it prevented her from speaking up when she had a question for fear of being judged.

Another key area some participants \((n = 3)\) spoke about when referencing their lack of relatedness with their peers was the inability to read body language and social cues online. Sam
discussed how difficult it was to “decipher for sure what’s going on” with other people online. He explained it as “having no actual intel” about what other classmates were thinking “because you can’t read their body language.”

In addition to a lack of connection, they also felt ill-equipped to reach out and form connections with their peers, even when they sensed this might be valued or appreciated. Sarah described it as being able to tell “by someone’s facial expression” that something might be wrong but not knowing for sure because “body language and a lot of social interactions just aren’t visible.” Gabe spoke about how difficult it was not being able to reach out to classmates when it seemed as though something might be wrong:

It’s really frustrating because if you genuinely care what's going on, you can't go up and say, ‘Hey, what's going on? You want to talk about something? I can see something’s wrong,’ because you're on camera with the whole class and everybody will hear you. When we’re at school you can just go up to that person discreetly.

Focus group participants were at a developmental stage in their lives where social connection and relatedness are crucial to their sense of self and the development of their identity (Erikson, 1968). There has been concern that the shift to online learning interrupted the development of these crucial connections (Lynch et al., 2020; Shah et al., 2021). This loss of relatedness was felt acutely by the participants ($n = 9$) in this study. Delilah shared this experience very directly. In a sad and whispered voice she said, “I ended up losing pretty much all my friends when school closed. I completely lost my social life.” Keith commiserated, “I feel like in person, you were known. When we were remote, you were just a face on a screen. You didn't exist, not to teachers, not to other kids in the class.” Sarah summed it up this way: “I felt nonexistent, definitely nonexistent. Just a face on a screen because everything else was nonexistent.”
A final sentiment shared by participants \( n = 9 \) when asked if there was anything else they wanted to share about their experience was a sense of urgency that their voices be heard. Each of the participants indicated agreement when Gabe stated, “People only want the opinions of the kids who do well at everything. They don’t want to talk to kids who aren’t doing well.” Delilah added, “Online learning definitely didn’t work for us,” to which all of the participants indicated agreement. Stella then offered her perspective, which summed it up well: “It’s important that we've been able to say our piece and that other people will be able to hear it.”

**Discussion**

The findings detailed above highlight important insights into the perceptions of newly struggling students and why they believe they struggled more with online learning during the pandemic than they did during in person learning prior to the pandemic. It was evident that lack of motivation was a prevailing factor in their struggles with online learning. It was also evident that the primary factor impacting this lack of motivation was a loss of relatedness with teachers and peers that participants experienced during online learning.

During the focus group sessions, participants were very clear that they did not have the same level of motivation for school during online learning as they did during in person learning prior to the pandemic. However, this lack of motivation was not immediate. Instead, participants’ motivation waned as the school closures and online learning persisted throughout the semester and they began to feel increasingly disconnected from their teachers and peers. As their motivation and sense of relatedness decreased, students engaged less with their classes. This resulted in late and missing assignments, which ultimately led to lower course grades overall.
The impact on motivation from the loss of relatedness was multifaceted. One facet is the feeling of invisibility participants experienced while online. They spoke frequently about their feelings of “nonexistence” in the online setting, how they were merely a face on a screen. They also felt their peers were often invisible to them because they were unable to read others’ body language or to follow up with personal conversations when they sensed a peer may have needed support. This led to participants not only feeling alienated themselves but also as though they were alienating others.

Paradoxically, participants also felt visible and exposed, as though they were “under a spotlight” where their appearance and their classroom contributions and questions were constantly under scrutiny by their peers and teachers. This resulted in participants refraining from asking questions when unsure about an assignment or course content out of fear of being judged negatively. This also caused students to turn their cameras off or to point them at the ceiling so that others would not judge their appearance, ultimately leading to further feelings of invisibility and disconnection.

A sense of relatedness is critical for student success, emotionally and academically, in any instructional setting. In an online setting these connections can prove to be more challenging to create and maintain. When these needs are not met, student success can be significantly diminished (Herbert, 2006; Lynch et al., 2020; Ryan & Deci, 2000; Shah et al., 2021; Vonderwell, 2002; Vygotsky, 1978). Participants in the study spoke extensively about the impact of this unmet need on their motivation during online learning.

A final facet of the disconnection students felt during online learning was from their teachers. Participants felt as though they did not know their teachers and that their teachers did not know them. As with the invisibility they felt with their peers, participants also felt that their
teachers only saw them as a face on a screen, a representation of a person instead of an actual person. Participants felt that because of this limited view, teachers were disconnected from the many difficulties students were facing during online learning and were proceeding with course expectations as though everything was “normal.” From the participants’ perspective, their struggles were perceived by their teachers as laziness. This supports previous findings that connection with and support from a teacher are crucial in fostering student motivation. Without this critical support, motivation can be significantly impacted (Allen et al., 2013; Roorda et al., 2011; Wang & Eccles, 2012).

Over time, these experiences of disconnection from peers and teachers persisted and accumulated. This resulted in diminished motivation and participants ultimately giving up on their schoolwork. Students who were previously successful students became newly struggling students.

SDT suggests that what is important is not simply the amount or quantity of motivation, but the quality of motivation a person has for an activity in a particular area or setting (Ryan & Deci, 2020). It is believed that online learning has the potential to offer multiple opportunities in meeting the needs of autonomy and competence. However, there is also serious concern that the relatedness needs of many students are not met in an online setting (Lynch et al., 2020; Shah et al., 2021). This was clearly evident in the current study.

With the increasing use of online learning platforms, both as a result of and independent of the COVID-19 pandemic, teachers, schools, and families need to become more aware of the unique challenges this learning environment presents. While online learning can offer opportunities and flexibilities not available with in person learning, forming connections with
teachers and peers and fostering a sense of relatedness in an online learning environment can pose a significant challenge.

As is evidenced by those who participated in this study, ensuring that the psychological need for relatedness is met when using an online instructional model is crucial for student success. There is a need for further research on instructional pedagogies that support relatedness in an online learning environment. This is particularly important for adolescents as online learning becomes more prevalent in high school settings. Additionally, more research is needed on the most effective way to provide professional development to teachers on these pedagogies so this research can move from paper to practice.

Finally, but no less importantly, to ensure that online learning is meeting the needs of all students, further research is needed into the underlying causes of the higher attrition rates in online learning environments. In order to understand the reasons for this attrition, it is essential that we hear the voices of those who have been the least successful in an online learning environment. The current research lacks this essential perspective by including only those students who have successfully completed coursework in an online environment. Those students who did not complete the course are not included in the research on this topic. These students have much to say and they want to be heard. This study was an attempt to make their voices heard.
CHAPTER 4: QUANTITATIVE RESEARCH REPORT

Introduction

The school environment has been noticeably transformed by online learning. Those who advocate for online learning believe it has the power to break down barriers for students by offering increased flexibility, convenience, and more customized learning when compared to traditional in person instruction. However, there are also concerns about the quality of online courses being offered and the ability of these online courses to meet the needs of students as effectively as in person classes. This may lead to some students struggling more in an online environment than with in person instruction. Despite these concerns, there is limited research
that has been conducted on the effectiveness of online learning, particularly for high school students.

The COVID-19 pandemic caused worldwide closures of schools, resulting in a sudden shift to online instruction for students. While these closures impacted students across grade levels, the impacts were felt differently at each developmental level. This study focused on newly struggling high school students. These students earned few or no D/F grades prior to the pandemic school closures and online learning. However, when schools were closed and learning shifted to an online format, these same students’ grades dropped to the point where they became newly struggling students.

Previous research has demonstrated that demographic characteristics can have an impact on student achievement. However, due to the very new nature of the COVID-19 pandemic, there is little research to determine whether there are specific demographic characteristics that are more highly associated with academic struggle as a result of the shift to online learning. This study sought to bridge this gap in research by exploring whether there is a relationship between academic outcomes and demographic categories of gender, racial/ethnic minority status, low household income status, and special education status and status as a newly struggling student during the COVID-19 school closures and shift to online learning.
Methodology

Newly struggling students are defined in this study as those students who earned a D or F as their final course grades in two or more classes during the first semester of 2020 online learning but earned no more than one D or F final course grade during the first semester of 2019 with in person instruction. To identify newly struggling students, final course grades of students from a suburban high school in the midwestern United States with an enrollment of just over 1,100 students were collected for both the first semester of 2019, which was in person, and the first semester of 2020, which was online. A total of 130 students (11% of the overall school population) met the criteria of newly struggling for this study.

Using a correlational research design, this study explored whether gender, racial/ethnic minority status, low household income status, and special education status were associated with status as a newly struggling student. Further analysis was conducted to determine whether there was an association between these demographic characteristics and the increase in D and F final course grades during online learning.
Results

**Key Finding #1**

Students from low-income households were impacted more by the shift to online learning than students from non-low-income households.

There was a statistically significant, positive association between low household income status and a student’s status as newly struggling ($B = 0.550, p = .012$). While students from low-income households made up only 20% of the school population as a whole, 31% of the students in the newly struggling group were from low-income households, indicating that students from a low-income household were significantly more likely to be newly struggling.

Neither gender, racial/ethnic minority status, nor special education status significantly predicted newly struggling student status.

**Key Finding #2**

Students from low-income households also showed a greater increase in D and F final course grades than students from non-low-income households.

Among newly struggling students, low household income status significantly predicted the difference in D and F final course grades between semesters ($B = 0.886, p = .017$). Not only were students from low-income households more likely to be newly struggling, among the newly struggling students, those from low-income households also showed a nearly two and a half times greater between-semesters increase in the number of D and F course grades than their peers from non-low-income households.
Key Finding #3

While the newly struggling special education students did show an increase in frequency of D and F final course grades, it was a significantly lower increase in frequency of D and F final course grades than non-special education students.

When status as a special education student was considered as a predictor, results show that special education status was significantly and negatively associated with an increase in the frequency of D and F final course grades between semesters \([B = -1.071, p = .020]\). That is, among newly struggling students, those with special education status showed a lower increase of D and F final course grades between semesters than their peers without special education status. Among newly struggling students, there was not a statistically significant relationship between student gender or racial/ethnic minority status and the between-semesters difference in the number of D and F course grades between semesters.

Conclusion

The purpose of this study was to explore whether demographic characteristics were associated with decreased academic outcomes among newly struggling high school students during the COVID-19 pandemic shift to online learning. This study focused on four key
characteristics: 1) gender, 2) race/ethnicity, 3) low household income status, and 4) special education status. From this analysis, it was determined that final course grades for students from low-income households were impacted more by the shift to online learning than they were for students who were not from low-income households. Not only were students from low-income households more likely to be newly struggling, they also showed a greater increase in D and F course grades between semesters than their peers not from low-income households.

The findings from this study are especially important as they provide further evidence of the escalated impact of the COVID-19 pandemic on low-income households. This is also beginning to be evident in the recent research on this topic. For example, in a report by Dorn et al. (2020), the authors found that students from low-income households were less likely to have access to high-quality online learning from their school. They were also less likely to have a quiet space to work, less access to devices that were not shared, less access to high-speed internet connection, and less parental academic support, all of which are key factors in providing an environment conducive to an online learning setting.

Additionally, recent research has shown that students from low-income households were more likely to be provided fully remote online learning during the pandemic and that full school closures with online learning as the only source of instruction were more common and longer lasting in schools serving primarily low household income students (Parolin & Lee, 2021). Students attending high-poverty schools showed more than double the rate of decline in reading and math than students attending low-poverty schools (Lewis et al., 2021).

As research on the impact of the COVID-19 school closures begins to emerge, it is becoming clearer that the persistent inequalities that existed prior to the pandemic for students from low-income households have been intensified by the COVID-19 pandemic.
Conversely, while special education students in this study did see an increase in frequency of D and F final course grades between semesters, it was a significantly lower increase in frequency than their newly struggling peers who did not have a special education designation. There currently is conflicting evidence pertaining to the impact of online learning during the pandemic on students receiving special education services as well as the factors that contributed to that impact.

One example is a study by Scott and Aquino (2020) that found that special education students had more difficulty than their general education peers accessing their online coursework as well as more difficulty in communicating with their instructors, contributing to lower achievement rates for these students during the COVID-19 school closures.

On the other hand, based on a study by Lupas et al. (2021), there was not a negative academic impact on special education students who participated in online learning during the COVID-19 pandemic. The authors contend that the condensed school day, increased flexibility in schedule, and reduced academic demand may have been factors in the better than expected student achievement scores of special education students during online learning.

Mirroring Lupas et al.’s (2021) findings, the current study indicates that special education students were the least impacted within the newly struggling student group. Further research is needed to determine the factors that contributed to the diminished detrimental impact on special education students in both Lupas et al.’s (2021) study as well as the current study to more clearly understand the impact, or lack thereof, for these students.
Key Takeaways

**Key Takeaway 1**

Further research focusing on the specific factors that contributed to the increased impact of online learning on students from low-income households is critically necessary to begin to address these gaps.

**Key Takeaway 2**

It is imperative that legislators and school districts analyze current strategies, policies, and initiatives to ensure they are based on the ongoing research and that the needs of students from low-income households are being met. The following areas are of particular importance:

- Access to high-quality online learning from their school;
- Access to high-quality academic support from their school;
- Access to devices for online coursework; and
- Access to a high-speed internet connection.
**Key Takeaway 3**

Current research involving special education students and online learning presents mixed and conflicting results. Further research is needed on the impact of online learning for special education students to both minimize negative impacts as well as to enhance positive impacts.

**Key Takeaway 4**

Further investigation is needed into the underlying causes of the higher attrition rates in online learning environments to ensure that online learning is meeting the needs of all students.

**Key Takeaway 5**

It is not yet possible, as of the time of this study, to determine the long-term impacts on student achievement. Future research is critically necessary to delve more deeply into these longer term impacts.
CHAPTER 5: QUALITATIVE RESEARCH REPORT

Introduction

The school environment has been radically transformed by online learning. Those who advocate for online learning believe it has the power to break down barriers for students by offering increased flexibility, convenience, and more customized learning when compared to traditional in person instruction. However, there are also concerns about the quality of online courses being offered and the ability of these courses to meet the psychosocial needs of students as effectively as in person classes. This may lead to some students struggling more in an online
environment than with in person instruction. Despite these concerns, there is limited research that has been conducted on the effectiveness of online learning, particularly for high school students.

The COVID-19 pandemic caused worldwide closures of schools, resulting in a sudden shift to online instruction for students. While these closures impacted students across grade levels, the impacts were felt differently at each developmental level. This study focused on the unique challenges faced by newly struggling high school students. These students earned few or no D/F grades prior to the pandemic school closures and online learning. However, when schools were closed and learning shifted to an online format, these same students’ grades dropped to the point where they became newly struggling students.

Surprisingly, there are few studies examining students who are unsuccessful in online courses. This is an area of notable concern due to the higher student attrition rates in online courses. Student dropout rates are 10 to 20% higher in online learning than in an in person learning environment. However, most of the studies that have been done on educational outcomes of online courses only examine outcomes for students who have completed the course, leaving the impacts and experiences of those students who had the least positive outcomes in online courses unexplored and largely unheard. This lack of literature is especially concerning with the widespread shift to online learning that occurred during the COVID-19 school closures.
Methodology

Newly struggling students are defined in this study as those students who earned a D or F as their final course grades in two or more classes during the first semester of 2020 online learning but earned no more than one D or F final course grade during the first semester of 2019 with in person learning.

To understand the impacts of the shift to online learning more fully, this study sought the perspectives of newly struggling high school students, specifically focusing on the themes these students referenced when explaining the reasons for their struggles. This study followed a qualitative approach utilizing focus group interviews specifically seeking to answer these questions:

- What themes do newly struggling high school students reference when explaining their increased rate of academic struggle during the COVID-19 school closures?
- In what ways do newly struggling high school students describe online learning as impacting their motivation?

These questions were based on data collected in the quantitative portion of the study (Webster, 2023) that found the primary reason for these students’ decreased academic outcomes was an increase in missing assignments as online learning progressed. The focus group questions
were created to explore the students’ perceptions as to why this occurred using open-ended, general questions combined with questions more directly referencing motivation.

The study took place in a high school in a suburban school district in the midwestern region of the United States. During the first semester of the 2020-2021 school year, this school provided only online learning opportunities to students due to the COVID-19 pandemic school closures. Potential participants for this study were identified through a review of school records to identify those students who were newly struggling. In order to be included, students also needed to have been enrolled in the district in both the 2019-2020 and the 2020-2021 academic years. This search identified 130 students who met these criteria.

Invitations to participate in a focus group were sent to each of the 130 sample group students as well as to their parent/guardian. A total of 10 students from the sample group agreed and received parent/guardian permission to do so. One of the students was unable to participate, resulting in a total of nine participants.

One of the students contracted coronavirus just prior to the focus group meetings and was unable to participate, resulting in a total of nine participants. The first focus group consisted of five 9th- and 10th-grade students. The second focus group consisted of four 11th- and 12th-grade students.

The data was collected over a one-week period and consisted of two in person focus group sessions. Data analysis was conducted using a thematic analysis approach (Braun & Clarke, 2006; Maguire & Delahunt, 2017).
Discussion

The findings from these focus group interviews highlight important insights into the perceptions of newly struggling students and why they believe they struggled more with online learning. It was evident, in their view, that lack of motivation was a prevailing factor in their struggles with online learning and that the primary contributor to this lack of motivation was the loss of connection with peers and teachers participants experienced during online learning.

Results

**Key Finding # 1**

Students’ motivation levels were not immediately impacted by the shift to online learning.

During the focus group sessions, participants were very clear that they did not have the same level of motivation for school during online learning as they did during in person learning prior to the pandemic. However, this lack of motivation was not immediate. Instead, participants’
motivation waned as the school closures and online learning persisted throughout the semester and they began to feel increasingly disconnected from their peers and teachers. As one participant shared:

At first I was still really motivated. It's like hey, I'm at home, I've got my own time now and that's pretty cool. This is great! Until we got further into it [the school closures] and then, man, I lost all of my motivation.

As their motivation and sense of connection decreased, students engaged less with their classes. This resulted in late and missing assignments, which ultimately led to lower course grades overall.

**Key Finding # 2**

The loss of connection with peers during online learning was a key contributing factor to participants’ decreased motivation.

The impact on motivation from the loss of connection these students experienced was multifaceted. One facet was the feeling of invisibility participants felt while online. They spoke frequently about their feelings of “nonexistence” in the online setting, how they were merely a face on a screen. One participant addressed this very directly: “I feel like in person, you were known. When we were remote… you didn't exist, not to teachers, not to other kids in the class.” In a sad and whispered voice another participant shared, “I ended up losing pretty much all my friends when school closed. I completely lost my social life.”

They also felt their peers were often invisible to them because they were unable to read others’ body language or to follow up with personal conversations when they sensed a peer may have needed support. This led to participants not only feeling alienated themselves but also as though they were alienating others. One of the students explained it this way:
It’s really frustrating because if you genuinely care what’s going on, you can't go up and say, ‘Hey, what's going on? You want to talk about something? I can see something’s wrong,’ because you’re on camera with the whole class and everybody will hear you. When we’re at school you can just go up to that person discreetly.

Paradoxically, participants also felt visible and exposed, as though they were “under a spotlight” where their appearance and their classroom contributions and questions were constantly under scrutiny by their peers and teachers. This resulted in participants refraining from asking questions when unsure about an assignment or course content out of fear of being judged negatively. This also caused students to turn their cameras off or to point them at the ceiling so that others would not judge their appearance. This ultimately led to further feelings of invisibility and disconnection, as one student explained:

> It made a lot of people not want to turn their cameras on, or when they did turn them on just point them at the ceiling so nobody could see them. I know that’s what I did. I didn’t want to have to constantly think about what I looked like or what other people were thinking about me.

**Key Finding # 3**

The loss of connection with teachers during online learning was an additional key contributing factor to participants’ decreased motivation.

A second facet of the disconnection students felt during online learning was from their teachers. Participants felt as though they did not know their teachers and that their teachers did not know them. As with the invisibility they felt with their peers, participants also felt that their teachers only saw them as a face on a screen, a representation of a person instead of an actual person. One participant spoke about the frustration she felt when teachers “made fun of students or joked about how we are all just icons on their screen, or that we’re all just ceiling fans because
that’s all they can see of us.” She wanted the teachers to remember that “we’re real, we’re actual people!”

Participants felt that because of this limited view, teachers were disconnected from the many difficulties students were facing during online learning and were proceeding with course expectations as though everything was “normal.” From the participants’ perspective, their struggles were perceived by their teachers as laziness. One of the participants shared a situation where this was clearly evidenced. Prior to the pandemic this participant did not typically struggle with staying on top of her school work, so when she started falling significantly behind, her teacher scheduled an online meeting to talk to her about it. She felt relieved to be meeting with her teacher and hopeful that together they would come up with a plan to help her catch up. Unfortunately, the scenario played out much differently:

When I logged in my teacher immediately was passive-aggressive and angry with me. She was really sarcastic and just kept saying, ‘You should’ve done this work already, it should be done, it’s not that hard.’ I could tell she just assumed that I was too lazy to do it, when in reality I was having difficulty. I was really struggling. So I just gave up.

Over time, these experiences of disconnection from peers and teachers persisted and accumulated. This resulted in diminished motivation and participants ultimately deciding that persisting was not worth it and giving up on their schoolwork. Students who were previously successful students became newly struggling students. According to one participant, as she felt more disconnected from her teacher, as well as her peers, her motivation began to plummet: “It used to be like C is the line. I should get my grade up if I get a C, but now I’m like, as long as I pass, at least get a D, I'm good.” The participant went from a student with no D’s or F’s prior to online learning to a student with D’s in four of her six classes during online learning.
Conclusion

A sense of connection is critical for student success, emotionally and academically, in any instructional setting. In an online setting these connections can prove to be more challenging to create and maintain. When these needs are not met, student success can be significantly diminished (Herbert, 2006; Ryan & Deci, 2000; Shah et al., 2021; Vonderwell, 2002; Vygotsky, 1978). Participants in this study spoke extensively about this loss of connection and the impact it had on their motivation during online learning:

I think it's more of the fact that we got used to so many years of actually going to school and having that interaction with our friends and our teachers, building up relationships with people. And then like that [snaps fingers] it was just gone.

With the increasing use of online learning platforms, both as a result of and independent of the COVID-19 pandemic, teachers, schools, and families need to become more aware of the unique challenges this learning environment presents. While online learning can offer opportunities and flexibilities not available with in person learning, forming connections with teachers and peers and fostering a sense of connection in an online learning environment can pose a significant challenge.
Key Takeaways

**Key Takeaway 1**

Ensuring that the psychological need for connection is met when using an online instructional model is critical for student success.

**Key Takeaway 2**

Further research is needed on instructional pedagogies that support connection in an online learning environment. This is particularly important for adolescents as online learning becomes more prevalent in the high school setting.

**Key Takeaway 3**

Further research is needed on the most effective way to provide professional development to teachers on these pedagogies so research can move from paper to practice.
Key Takeaway 4

It is essential that we hear the voices of those who have been the least successful in an online learning environment. The current research lacks this overlooked perspective by including only those students who have successfully completed coursework in an online environment. These students have much to say and they want to be heard.

As one participant summed up at the end of the focus group session, “Online learning definitely didn’t work for us. It’s important that we’ve been able to say our piece and that other people will be able to hear it.”

This study was an attempt to make their voices heard.
CHAPTER 6: CONCLUSION

This four-paper dissertation is an attempt to begin to understand the impacts of the shift to online learning during the COVID-19 pandemic more fully and to give voice to those for whom this shift to online learning was not effective and resulted in decreased academic outcomes.

With the increasing use of online learning platforms, both as a result of and independent of the COVID-19 pandemic, teachers, schools, and families need to become more aware of the distinctive challenges this learning environment presents. While online learning can offer opportunities and flexibilities not available with in person learning, there are also concerns about the quality of online courses being offered and the ability of these online courses to meet the needs of students as effectively as in person classes. This may lead to some students struggling more in an online environment than with in person instruction. As this study as well as other emerging research demonstrates, this is particularly true for students from low-income households. Additionally, forming connections with teachers and peers and fostering a sense of relatedness in an online learning environment can pose a significant challenge. As is evidenced by those who participated in this study, ensuring that the psychological need for relatedness is met when using an online instructional model is important to student success.

Implications

It is crucial that academic research move from paper to practice so the educational outcomes and experiences of students can be positively impacted by the research. Therefore, it is
imperative that legislators and school districts analyze current strategies, policies, and initiatives to ensure they are based on the ongoing research and that the needs of students, particularly those from low-income households, are being met. The following areas are of particular importance:

- Ensure students have access to high-quality online learning from their school;
- Ensure students have access to high-quality academic support from their school;
- Ensure students have access to devices for online coursework;
- Ensure students have access to a high-speed internet connection;
- Ensure that instructional pedagogies that support relatedness in an online learning environment are implemented; this is particularly important for adolescents as online learning becomes more prevalent in the high school setting; and
- Provide and require professional development for teachers on pedagogies that support a sense of connection and relatedness in an online learning setting.

**Areas for Further Research**

Further research focusing on the specific factors that contributed to the increased impact of online learning on students from low-income households is critically necessary to begin to address the aforementioned gaps.

Further research is needed on the impact of online learning for special education students. Current studies involving these students present mixed and conflicting results. By further analyzing the factors that contribute to success for those special education students who are successful with online learning, schools can build on that success for special education students more broadly.
Finally, but no less importantly, to ensure that online learning is meeting the needs of all students, further research is needed into the underlying causes of the higher attrition rates in online learning environments. In order to understand the reasons for this attrition, it is essential that we hear the voices of those who have been the least successful in an online learning environment. The current research lacks this important perspective by including only those students who have successfully completed coursework in an online environment. Those students who did not complete the course are not included in the research on this topic. These students have much to say and they want to be heard.
REFERENCES


APPENDIX

FOCUS GROUP QUESTIONS
1. What are some of your thoughts about what made last semester more challenging for you than before the pandemic?

2. One thing I noticed was that the main reason kids’ grades were lower last semester was because of the number of missing assignments they had. This may or may not be the case for you, but if it was, why do you think you had more missing assignments?

3. When you think about last semester, do you think if you tried harder you may have struggled less or do you think you would have struggled more no matter how hard you tried?

4. Do you feel like you had more or less control over your learning last semester?

5. How connected did your classes feel to what was happening in real life last semester? Is that the same or different than before the pandemic?

6. Did you feel more or less connected to your teachers and classmates last semester or was it about the same as before the pandemic?

7. Is there anything else you’d like to tell me about last semester?

8. What advice would you give me about how we can make online learning better for students in the future?