

MEASURING SUCCESS: PARENTS' PERSPECTIVES AND ATTITUDES TOWARDS THE
CHANGES TO K-12 EDUCATION DURING THE CORONAVIRUS COVID-19 PANDEMIC

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ABSTRACT

Ally E. Washington: Measuring Success: Parents' Perspectives and Attitudes Towards the Changes to K-12 Education During the Coronavirus COVID-19 Pandemic
(Under the direction of Dr. Yuliana Rodriguez-Vongsavanh)

The current study exists to evaluate the educational experiences of North Carolina K-12 students based on their parents' attitudes towards their schools during the coronavirus pandemic transition from in-person learning to distance learning. Parent participants ($N = 835$) volunteered to take a survey created by Parents for Educational Freedom in North Carolina to assess how parents responded to the major changes in their children's education. Questions from this survey were operationalized to test the predictability of parent loyalty to their school and parent confidence in the education experience based on parent perception of education service quality. A significant relationship was found between parent perceptions and parent loyalty and confidence such that parents who perceived the school as delivering education instruction well were less likely to consider different schooling options and more confident that their child will progress to the next grade. Although the utilization of parent loyalty and confidence as educational success measures requires further exploration, the current study findings highlight important implications for school stakeholders, administrators, educators, as well as researchers.

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LIST OF ABBREVIATIONS

EVL	Exit, Voice, and Loyalty
NCIM	North Carolina Institute of Medicine
PEFNC	Parents for Educational Freedom in North Carolina
PESN	Parent's Encouragement to Seek New Opportunity (loyalty measure)
PCCF	Parents Confidence in Child's Future (confidence measure)
ZPD	Zone of Proximal Development

CHAPTER 1: INTRODUCTION AND THEORY

Introduction

History has taught our society that illness and disease spread quickly within schools. This has given rise to public instruction policy such as immunization requirements that bar enrollment of students not vaccinated for diseases and viruses such as polio, measles, meningitis, and tetanus. Following a smallpox epidemic in Massachusetts in the late 19th century, legally mandated vaccination emerged in the US. The Supreme Court upheld laws requiring vaccination for school entry in 1922 and school vaccination statuses were expanded and more strictly enforced beginning in the late 1970s (Flanagan-Klygis, 2003). Most recently, the novel coronavirus COVID-19 outbreak took humanity by surprise, spreading to a pandemic level and sparking many major changes on a state, national, and even global level. Large numbers of people were experiencing totally unprecedented circumstances having never lived through an outbreak of such magnitude. Stay-at-home orders were instituted around the globe in many cities and normal life ceased to be.

Growing concern around the rapid spread of the virus led to expeditious transitions in the delivery and format of education in the United States. North Carolina (NC) Governor Roy Cooper made an Executive Order on March 14, 2020 to suspend all in-person instruction within K-12 state public schools in response to the rapidly spreading coronavirus COVID-19. Prior to the pandemic, distance learning was relatively uncharted waters for public instruction. Distance learning is defined by the separation of the student from teachers and peers to conduct learning via the internet, email, mail, or other non-contact methods (“Distance Learning,” n.d.). Home

schooling does not quite fit this definition as it sometimes takes place in a “class” setting within co-op programs, leaving even that population of students somewhat displaced. With a new normal for education existing outside of the traditional school building and inside individual families’ homes, instruction techniques made a 180 degree turn to distance learning. As parents navigated these uncharted waters, many people were left wondering if the new delivery method of educational material met the needs of their students, particularly of those with limited access to resources required in a distance learning environment.

Current school enrollment statistics show that there are 142,037 students in homeschool, 102,400 students in private schools, 118,000 students in charter schools, and 1,553,334 students in public schools (Machelle, 2019; North Carolina Department of Administration, 2019; Public School Review, 2020). This estimates 3,831,542 NC students have undergone drastic changes to their education. Additionally, approximately 40 percent of the state’s public school students reside in rural counties. Out of the 115 traditional K-12 public school districts, 87 are labeled as belonging to rural counties (Public Schools First NC, 2020). Importantly, 80 of NC’s 100 counties are rural. NC is also home to 568,000 rural students, the second largest rural student population in the United States, after Texas (Public Schools First NC, 2020). With such a large proportion of students identified as living in rural areas, concerns arise for this population of students and their access to the necessary resources for distance learning (i.e., reliable internet access, teacher abundance, etc.). Normal, pre-pandemic struggles with education across all types and student populations alone leaves people wondering if students are being supported in their learning with the new methods of instruction. The additional challenges brought on by the circumstances surrounding the pandemic drastically add to these concerns.

Prior research has highlighted the large effect school input has on student outcomes. In particular, school closures and lost school days have historically led to worse student outcomes (Le Brocque, De Young, Montague, ..., 2017; Thamtanajit, 2020; Zheteyeva, Rainey, Gao, Jacob, ..., 2017). Historically, policymakers have created pandemic intervention plans. However, these plans pinpoint school closure as the only option to minimize the spread of viral outbreaks in schools (Uscher-Pine, Schwartz, Faruque, Zheteyeva, Meza, Baker, & Uzicanin, 2018). With the literature pointing to distance learning as the only long-term educational solution for a pandemic outbreak, additional research exploring the impacts of school closure and online education highlight the academic, social, and economic consequences of non-traditional education instruction methods (Zheteyeva et al., 2017). Importantly, these consequences are often measured using academic performance and achievement, retention rates, and stakeholder satisfaction (Ronsisvalle et al., 2005). There is a real need for evaluating parent voices as one of the major stakeholders in education as a measure of school success (Taber, 2015), especially as the education climate continues to change with unprecedented circumstances such as the COVID-19 pandemic.

Although still minimal, research has begun to emerge about the most recent coronavirus COVID-19 pandemic and its effects on many facets of life. One of those facets that has not been heavily researched yet is children's education in relation to the COVID-19 pandemic. In addition, there is little literature on parent perspectives surrounding their children's education. Yet, parental roles in children's education have drastically changed as increased emphasis has been placed on empowering them in the decision-making process (Taber, 2015). Decisions can range from what new classroom tools and strategies should be implemented to what resources and programming should be offered to students. Nonetheless, schools' interpretation of this

involvement and its application has only been reflective of the minimum required by law (Hess, Molina, & Kozleski, 2006). This paradox that exists in the relationship between schools and their biggest stakeholders (i.e., parents) suggests there might be a missing piece in the evaluation of educational experiences.

In the wake of public health concerns, schools were closed for the remainder of the 2019-2020 school year and distance learning became the new form of public instruction. With the newly defined learning experience, the educational experiences of many were altered drastically, sparking debate on the effectiveness of the implemented changes. Among the multitude of changes, it is expected that a great amount of variation was introduced to student evaluation methods, leaving a limited number of measures for student success that could be standardized across all classrooms, grade levels, schools, and districts. For example, classes offered virtually may not allow for formative assessments such as one-on-one read-aloud assessments to take place due to the inability to break off virtually and leave the class fully unattended in a separate room. Consequently, perspectives and attitudes towards the experience remain the best available measure of education success. This further highlights the rationale for utilizing and accounting for parent perception and voice, in particular, to test the success of COVID-era education methods.

The Current Study

The current study aims to evaluate the educational experiences of North Carolina K-12 students based on their parents' attitudes towards the transition from in-person learning to distance learning. More specifically, the following research questions will be addressed:

1. How do parent perceptions of the education experience predict parents' attitude towards how well the education experience is preparing their child to progress to the next grade?
2. How do parent perceptions of the education experience predict parents' loyalty to their current school of enrollment?
3. How does school type, grade level, and type of COVID-19 education transition account for mean differences in parent confidence in how well the education experience is preparing their child to progress to the next grades?
4. Finally, Additionally, how does school type, grade level, and type of COVID-19 education transition account for differences in parent loyalty towards their child's school?

It is hypothesized that more negative parent perceptions of school input will be predictive of lowered levels of confidence in the child's grade progression. Additionally, it is hypothesized that more negative parent perceptions will be predictive of higher levels of encouragement to seek out new educational opportunities. Furthermore, it is hypothesized that parents with children enrolled in private, elementary schools whose school transitioned to a formal online curriculum will report both higher levels of confidence in their child's grade progression as well as higher levels of loyalty. This final hypothesis stems from personal speculations about transition types and enrollment type as well as from a previous study that found grade level differences between groups for its results of school success measured via student standardized test scores (Thamtanajit, 2020).

This thesis will lay down the theories that underpin both the importance of this research as well as give support for the hypotheses. A review of the literature surrounding distance

learning, the effects of crises on education and students, and the role of parent voice in education will be presented. Methods will be outlined prior to a review of the analyzed data from the 2020 *COVID-19 Impact: Education Transition Experience* parent survey. Following the results, a discussion highlighting major findings and pertinent implications of the results will be provided. Then, limitations and suggestions for future research will be discussed followed by a conclusion of this thesis study.

Theoretical Framework

The current study is founded on three major ideas surrounding children's education and parent involvement. In the following section, Bronfenbrenner's Ecological Systems theory will be put into the context of educational experiences and possible factors, including parents and schools, that could impact school success. Next, the principle of the zone of proximal development from Vygotsky's Social Learning theory will be presented as the cornerstone of why parent involvement is important to consider in evaluating students' educational experiences and success. Finally, Hirschman's Exit, Voice, and Loyalty model will be utilized in framing the parent-school relationship in which parents serve as major stakeholders and clients in the delivery of their child's education. All three of these frameworks highlight the importance of evaluating parent perspectives and how it sheds light on the educational experiences of their children, especially when other avenues of evaluation are not available.

Bronfenbrenner's Ecological Systems Theory.

American psychologist Urie Bronfenbrenner (1917-2005) founded the Ecological Systems Theory (1979) for human development. The principles of the theory are often applied to the many facets of child development and highlight the influence of different environmental systems (i.e., micro-, meso-, exo-, and macro-system) on a child's development. The theory

presented a novel idea for Bronfenbrenner's time, stating that human development can be studied and understood as the interplay between the active growth of the person and the changes in their immediate settings, which is in turn affected by the relations between these settings and their larger contexts (Bronfenbrenner, 1979, p. 21). This theory was coined the "ecology of human development." A later revision termed the Bioecological Systems Theory (1986) better explained the interaction between a child's inherent qualities and their environment that influence their avenue of growth with the addition of a fifth system, the chronosystem.

The principles of Bronfenbrenner's theory for understanding human development are based on five systems that interact with each other to influence the expressions of a child's innate qualities. The first system, the microsystem, encompasses the child and the roles and settings in which they directly interact such as family, school, sports, activities/hobbies, clubs, service projects, religious/faith groups, and more. This is the developing child's immediate environment, where they experience the most interaction. The second system, moving outwards from the child is the mesosystem; it is characterized by the connections and interactions between the many microsystems and the broader environment (e.g., the child's family and the child's school).

The next system, extending even further from the child, is the exosystem. This system encompasses the social settings that affect the child but are not directly inclusive of the child. An example of this could be a parent's workplace as it affects the parents' function in the child's life. The fourth and last system of the original theory is the macrosystem, defined by the values and culture in which the child lives. The fifth system, added as a part of the revised theory, is the chronosystem which accounts for the change across time in the child's life, including historical events and how they might affect the developing child. These systems are often visually depicted in an onion-like fashion, with rings extending out from a core to explain the layers of a

developing child (*see Figure 1*). This model exemplifies the holistic view that is the foundation of Bronfenbrenner's theory - all aspects of a person should be taken into account and seen as a whole.

This ecological theory of human development hits at the core of education's purpose: growing children and preparing them for adulthood. Aiding in a child's growth is no easy task and a large majority of the Human Development discipline has come to the mutual understanding that there is no one factor, no one measure, and no one way to grow a child. Every year the education system attempts to tackle the task of creating the best environment, curriculum, and experience that will develop all the skills a child might need. Children are unique and exist within diverse environments. Bronfenbrenner's ecological theory can help educators better support children as they progress through their education careers. As Bronfenbrenner points out, "what we find in practice, however, is a marked asymmetry, a hypertrophy of theory and research focusing on the properties of the person and only the most rudimentary connection and characterizations of the environment in which the person is found" (Bronfenbrenner, 1979, p. 16). Here, Bronfenbrenner is highlighting the disconnect between theory and practice that often occurs when people only skim the surface of understanding a person in the context of their environment.

Even though Bronfenbrenner makes this claim over 40 years ago, critics of public instruction would argue the same for the education system. Similar to Bronfenbrenner's claim about practice, education literature seldom considers the mesosystem (i.e., the interactions and connections between microsystems) when addressing and measuring children and their educational experience. Measuring their personal achievement and their teacher's success is not sufficient in understanding a child as a student. There is a gap in the field's understanding of

students through the multiple external factors that play into their educational experience, including their parents and their parent's environment. Additionally, parents are uniquely positioned such that they are typically more attuned to the many systems in which their child lives and, therefore, form opinions on how education can be addressed in a way that holistically accounts for their child's needs. The current study fills this gap by addressing the perspectives of parents and testing the relationship between parent perceptions of their school and parent loyalty towards the school.

Bronfenbrenner's ecological theory provides a foundation for understanding the importance of parents' role in education. Schools exist in the child's microsystem and include teachers, school staff, administrators, peers, and school-related activities, clubs, or sports. Family also exists in the microsystem and often interacts with the school experience. That mesosystem interaction is not often explored in research and education literature as is; however, the ecological theory stresses the importance of this interaction for child development outcomes. With the drastic changes in children's lives due to COVID-19 and schools closing their doors, there can be an expected ripple effect in their ecological systems, further impacting their experience of education and their outcomes. Additionally, as parents have taken a more active role in schooling for distance learning, this research will delve into the mesosystem level of Bronfenbrenner's theory to exemplify the success of the newly adapted education experience.

Vygotsky's Social Learning Theory.

L. S. Vygotsky (1896-1934) is often referred to as a pioneer of developmental psychology, engaging in debate and investigation into what factors influence the way humans develop. His most notable contributions to the field of human development hone in on the psychological development of children with an emphasis on social interactions. Vygotsky's

theory and its principles aligned with predominant thinking around child development in the early 20th century but he also began to revolutionize people's understanding of children's learning and what came first. Vygotsky (1978) theorized that social learning precedes development. In more simple terms, social learning onsets and propels a child's psychological development.

Social learning is the term coined by Vygotsky highlighting important learning done by a child through social interactions. A principle of Social Learning Theory is a child's zone of proximal development (ZPD) in which the greatest quantity and quality learning can occur (Vygotsky, 1978). ZPD is the space between what a child can do by themselves and what they are capable of under the guidance and help of another. Education functions under this component of the theory in that children are expected to learn using what they can do and what they know themselves whilst educators supplement those abilities and that knowledge through guidance in different subject areas. For example, a student can learn to do addition independently, initially with the help and guidance of teachers. The teacher provides the student with tools and strategies to practice addition while the student is still learning how to turn their skill of simple counting into the addition of multiple numbers. This zone, where the student can count but not quite add numbers together by themselves, is the zone of proximal development.

This theory, and its principle of ZPD, underpins the current study of educational experiences within the context of changing instructional settings, materials, and personnel. The current research questions highlight the impact of social learning on parent perceptions as a measure of children's academic success in the wake of the COVID-19 pandemic and distance learning. Ruth Lawton (2017) employs Vygotsky's theory and ZPD as a foundation for exploring parents' and teachers' perceptions of parental involvement specifically in after-school tutoring.

While the study does not look at the educational experience pertaining to in-school interactions and work, it does however shed light on how Vygotsky's theory, education, and parenting all interact. In the study, Vygotsky's ZPD is applied to the comprehension of academic achievement. Lawton (2017) interprets this application as "the student searches for understanding through the instructions or actions given by the parent or teacher and then internalizes the information. The internalizing of these instructions or actions direct the child's accomplishment and leads to advanced thinking skills." The current study uses this interpretation of ZPD as a foundation for understanding parents as an outlet for measuring the success of schooling as they serve as newfound co-instructors in distance learning.

Hirschman's Explication of Exit, Voice, and Loyalty.

The final principle that builds the foundation for this study is the Exit, Voice, and Loyalty (EVL; 1970) framework developed by Albert O. Hirschman (1915-2012). This framework directly speaks to the loyalty of parents in this research. Hirschman's explication of this principle encompasses the common consumer experience that occurs when a good or service deteriorates via two main concepts: *exit* or *voice*. Hirschman explains the component of *exit* as when the client seeks out a different product or service when they become dissatisfied with the current product or service's quality. The possibility of regaining clientele would, in theory, motivate the improvement of product or service from the organization the client is exiting from (Hirschman, 1970, p. 334). Conversely, *voice* is explained as a client submitting their dissatisfaction in the form of a complaint to the organization when a product or service's quality decays. This, in turn, would lead to the organization improving the quality of the product or service, retaining or possibly regaining clients. Hirschman qualifies that *voice* most often occurs when *exit* is not a viable option; however, when viable options of better quality do come available, clients most

often *exit*. The final component to the relationship between organization output and client decisions (*exit* or *voice*) is *loyalty*; a loyal client of an organization is likely to opt for the *voice* option, even when *exit* is an option. Hirschman explains this relationship as a balance, calling on the notion that no one can please all people all of the time, but they can please some of the people, most of the time.

This model of client-organization relations has as of late become increasingly popular in social sciences research. It has been applied to numerous social experiences such as personal relationships, political party membership, and even school choice (Goldring & Shapira, 1993; Ogawa, 1997; Rusbult, Johnson, & Morrow, 1986; Sharp, 1984;). In the context of Hirschman's model, school choice refers to the process of parents choosing to enroll their student in their zoned school or to seek out other educational opportunities. Previous work has applied Hirschman's model to the relationship between parents and schools. For example, according to Ogawa and Dutton (1997), Hirschman's model can be applied to three areas within education: parental satisfaction with their child's school, parental value placed on education quality, and the degree to which parents express voice. In their review of literature, they found that parents who are dissatisfied are more likely to employ *exit* and that those who are active in school choice are likely to be dissatisfied with previous schools (Ogawa & Dutton, 1997).

Additionally, Ogawa and Dutton's (1997) review of literature also reveals an interesting moderator to the relationship between parent perceptions of education and their attitudes of loyalty or exit; parents' level of education is related to the employment of *exit* such that higher parental education leads to greater exit and can be explained by parents' awareness of options and access to information. Interpreting this finding using Hirschman's model as a lens would indicate that when parents are dissatisfied with the school's product, they will exit instead of

voice in light of knowing better options. Even in the case of a parent's use of voice with or without feelings of loyalty, if the responsiveness of the school is inadequate, exit might still occur (Ogawa & Dutton, 1997). This explication of EVL as it applies to the relationship between parents and schools highlights the importance of research that uses parent attitudes (e.g. loyalty and confidence) as a measure of school success. Little prior research acknowledges the potential, but those that do point towards a possible relationship between service quality and loyalty (Bejou, 2012). *See Figure 2* for Bejou's proposed model for this relationship.

In relation to this study, the research questions revolve around the model's most fundamental principle that an organization is bound to decline in product quality due to any number of unexpected reasons. School policy has repeatedly attempted to adapt quickly to the ever-changing climate of student factors that can impact the education experience. Organizational success is often measured by student outcomes in test scores and grade progress. However, the Hirschman EVL model provides ingenuity to evaluate school success with the understanding that schools' biggest stakeholders are the parents and not the student. Understanding how successful the child's school experience is perceived by parents can unveil the necessity for improvements in the educational program during the transition between school years as well as prior to parents' decision between *exit* or *loyalty*.

CHAPTER 2: LITERATURE REVIEW

In this chapter, I will discuss the currently available literature on a range of topics surrounding my research questions. I will explore past policies covering school procedures in the face of widespread illness and pandemic in schools. Then, I will discuss the academic and health consequences of school interruptions on student success in education. Furthermore, I will review the available literature surrounding successful distance and online education programs around the world. Additionally, typical measures used in evaluating school program success will be outlined and the role of parents will be discussed as one of those possible measures. The literature shows the importance of studying program success in the wake of a pandemic that causes school interruption and points to parent voices as a measure of education success in the face of new education delivery methods during the COVID-19 pandemic. The literature will also shed light on the measurement and data collection methods that have been successful in the past that will guide the methods of the current study.

Pandemic Precautions in United States Public Schools

Viral outbreaks are not uncharted waters for schools around the United States. Instead, schools every year encounter at least a small viral outbreak such as seasonal influenza or norovirus (commonly labeled as the “stomach bug”). Similar to the novel coronavirus COVID-19 pandemic, the influenza H1N1 pandemic of 2009 sparked a need for new public safety guidance. The Center for Disease Control (CDC) developed interim guidance for mitigating the impact of the 2009 novel virus outbreak (CDC, 2009). The guidance document outlines the use of intervals for changes in guidance that can help slow the spread and bring the nation out of a

pandemic. The fifth interval of seven is labeled the “Acceleration Interval” defined by the identification of containment efforts as unsuccessful. The CDC outlines that the primary important efforts to be made in this interval are school and childcare closure, social distancing, and efficient utilization of public health resources (CDC, 2009). This guidance document would suggest that social distancing and school closures are mutually exclusive. On the CDC’s website, guidance for school administrators is provided surrounding the seasonal flu in K-12 schools. This guidance is updated regularly and contains recommendations for school policy that will aid in reducing the infection rate within schools. The first recommendation is to encourage staying home when symptoms such as a fever start presenting (CDC, 2020). This is followed by recommendations for education and practice of hand hygiene and surface cleaning with the provision of supplies. The order of these recommendations highlights a ranking of importance reflecting the need for administrators to create policies that keep children home from school in the case of sickness rather than promote a health protocol that would slow and/or prevent the spread of illness. These two separate guidance documents make no indication for why sending students home (whether that be the individual or whole school population) is prioritized over health hygiene education and provision of supplies, but suggests what leaders believed to be the easiest first solutions.

A recent 2018 study researched how United States school policies address influenza pandemic crisis prevention (Uscher-Pine, Schwartz, Faruque, Zheteyeva, Meza, Baker, & Uzicanin, 2018). The study reviewed documents on school practices to promote social distancing in a communicable disease outbreak (Uscher-Pine et al., 2018). The study highlights the importance of these documents and school policies regarding illness mitigation measures due to schools’ socially dense environments that allow for congregations of students across a multitude

of hours, fueling the spread of disease in a community during outbreaks such as pandemic influenza. Results of the study show fewer than half (42%) of the states with reviewable documents included any policy or practice that promoted social distancing and none of the documents in review discussed implementation in detail (Uscher-Pine et al., 2018). This demonstrates that many schools do not encourage the safety measures necessary for student health, especially in the case of a pandemic. Similar to the policies put in place during the COVID-19 pandemic, Uscher-Pine (2018) found that most school practices were to cancel or postpone extracurricular/after-school activities, classes, and transportation. This might be indicative that most state policymakers see social distancing as infeasible and school closure as more beneficial.

Directing attention to North Carolina specifically, the North Carolina Institute of Medicine (NCIM) released guidance for public schools in anticipation of a pandemic (NCIM, 2007). In a section that addresses balancing the need to protect the public and the rights of individuals, the NCIM encourages implementation measures such as isolation, quarantine, and social distancing as a means for limiting the virus from spreading. The guidance makes note that these measures may be seen as an interference of personal liberty or privacy and other measures such as school and daycare closure and church service suspension should be considered (NCIM, 2007). Based on these guidelines, the NCIM seems to view school loss as less of a threat to personal liberty than maintaining distance from others or wearing face coverings to protect others and self. The document outlines a categorization of recommendations based on pandemic severity level (i.e., index) and places dismissal of students from schools and school-based activities, and closure of child care programs in the recommended category in severity levels 2-5 with the highest recommended period being ≤ 12 weeks. For more information on these NCIM

mitigation effort recommendations, see Appendix A. A footnote goes on to explain that schools should plan to prolong the implemented change for the duration of the pandemic. Much like the 2009 and 2020 CDC guidelines, school closure is recommended for most pandemic mitigation measures and social distancing/hygiene measures come as an afterthought or are not included at all. School interruption would appear to be the most favorable solution in the case of a pandemic and literature does not overtly encourage other possible measures to limit spread or the consequences of closing schools. This is an important factor to account for as we consider the impacts of school closure on students' ability to succeed academically.

Impacts of School Interruption on Student Success

With large-scale crises presenting an inability for in-person education instruction because the school building cannot function due to the pandemic's dangers, one can assume that the student's experience and moreover their performance would be affected. One study tested this assumption by examining the impact of severe flooding in Thailand on student achievement, comparing the student populations in the flooded areas to the student populations in unaffected areas (Thamtanajit, 2020). Much like the long-term closing of North Carolina schools, Thailand schools closed for weeks, even months, in the areas affected by the flooding. The lost days due to flooding were found to have significant negative effects on test scores of the high-stakes testing that occurs in Grade 6, 9, and 12. Decreases in test scores have been found to lead to lower educational attainment in adjacent studies; Thus Thamtanajit concludes that the adverse effects of severe flooding need to be lowered. In addition to Thamtanajit's findings, another study found that educational inputs, such as the number of instruction days, improve students' test scores (Marcotte, 2007). Moreover, Marcotte and Hemelt (2008) found that lost school days due to unscheduled closings had large negative effects on elementary grade students' performance on

math and reading assessments. All of these studies show that school closure has historically had negative effects on student academic outcomes, specifically test scores. Research on education outcomes would also benefit from longitudinal research designs to test these findings for long-term closures.

Teachers are often noted as having the largest influence on student outcomes in education. In contrast to the two previously mentioned studies that looked at test scores as outcomes, another study researched how educators can serve as mediators for student's psychological wellbeing outcomes in the wake of crisis (Le Brocque, De Young, Montague, Pocock, March, Triggell, ... Kenardy, 2017). The study emphasizes children's vulnerability to poor psychological outcomes and teachers' unique position that aids in identifying those who may be experiencing psychological difficulties due to trauma. However, teachers and other education professionals in the Le Brocque et al. (2017) study reported feeling inadequately equipped to provide psychological support to their students in the wake of trauma. This study suggests that a crisis, such as the coronavirus pandemic, may impact psychological outcomes of children and also highlights how crisis training, whether it be for general educational performance or psychological health outcomes, is not addressed well in the education systems around the world. With COVID-19 affecting more than just education delivery, students may be experiencing major life changes that are difficult to process alone. Although students' psychological wellbeing outcomes are not assessed in this research study, the current study could reveal that North Carolina parents' perceptions of delivery of instruction are impacted negatively by lack of confidence in the response efforts of the education system to the drastic changes experienced by their students in the transition to distance learning.

Distance and Online Learning Education Outcomes

A few existing studies present different approaches to the analysis of educational outcomes and consequences from online learning (distance learning) and natural disasters/trauma. Consistent with Thamtanajit (2020) and Le Brocque et al. (2017), Zheteyeva, Rainey, Gao, Jacob, Adhikari, Shi, ..., Uzicanin (2017) studied the effect of natural disasters on students. The study surveyed households of Mississippi's Harrison County School District students, collecting school-closure related effects. The information collected included difficulties such as employment and pay interruption, food security loss, and childcare arrangements. Crossing this data with the demographic information of the participants to better understand the consequences of the hurricane, the study found school closure may lead to unintended social and economic consequences for students and families (Zheteyeva et al., 2017). A survey was used to collect the data and examine these consequences, finding that 1,082 of the 2,229 participants surveyed (48.5%) experienced some of the hypothesized difficulties during the school closure.

In contrast to the Zhetevava et al. (2017) study, a 2011 study gathered data via a qualitative testimonial approach (Macintyre & Macdonald, 2011). The study assessed how distance learning affects students and varies across demographics. Macintyre and Macdonald explain their choice of a qualitative research approach as a way to provide an in-depth understanding of the perspectives of remote rural students on their experience of study. Their findings concluded that distance learning can provide opportunities for building connections with like-minded people, however, the study was not able to provide a detailed list of outcomes, beyond this conclusion, nor did they provide confounding factors that may affect those outcomes

from a distance learning experience. However, it highlighted how variance in personal factors provides a unique experience with how distance learning is approached by each student.

Another study researching distance, online learning assessed the existing literature on online education outcomes. Ronsisvalle and Watkins (2005) qualify that current online learning opportunities for K-12 education are far from established in politics nor is it accounted for in studies surrounding changing technology, study skills, learning theories, and teaching methods. The researchers looked for common themes on factors impacting the success of online K-12 programs in the United States. They found that most programs were assessed by measuring students' academic success and/or the satisfaction of students, parents, school districts, teachers, and the employers themselves (Ronsisvalle & Watkins, 2005). Meta-analysis of past literature showed that completion rates ranged from 80-94%, earned grade averages were B's or above, and scores qualifying for advanced placement of students exceeded the national average by 9%. This would suggest that online schooling is successful relative to its in-person counterpart. Ronsisvalle and Watkins (2005) provide evidence for distance, online schooling success and demonstrates the ability to evaluate its success compared to other schooling options. This will lay the groundwork for the current study as distance learning program success will be evaluated from a parent perspective that has experience with the other schooling options.

Typical Measures of Education Experiences

As distance learning has become increasingly more prevalent, researchers and school evaluators have sought to measure the experience. A recent study of distance learning in rural areas of Scotland identifies literature that focuses on instruction design and user experience as its foundation for hypothesis (Macintyre & Macdonald, 2011). Macintyre and Macdonald research the experience of students learning in remote settings around Scotland, using user experience as

their primary measure of success. Data were collected from each of the student participants via a 20-30 minute phone interview and follow-up, voluntary focus group sessions. Questions and topics of discussion ranged from their sense of remoteness, social connectedness to other students at the university, and their feelings towards other people's perceptions of their education experience. Their responses were taped and coded qualitatively, searching for common dominant themes from the participant responses. Relative openness and unstructuredness of data collection and analysis methods aided this study in the development of student-led narratives (Macintyre & Macdonald, 2011).

Although the Macintyre and Macdonald (2011) study consisted of participants from a Scottish University, this study highlights possible methods that can be used to collect student narratives and qualitative data as a means of measuring program success. Due to the nature of the current study evaluating K-12 education success, it is important to consider the wide age range of parties of interest which covers children through adults. It is also important to consider the limitations of analyzing qualitative data, including that investigating predictive relationships between variables is not a core purpose of this type of data as well as its heavily time consuming nature, making this form of data collection with large sample sizes such as the current study uncommon. Still, the Macintyre and Macdonald (2011) study guides the current study by showing the importance of subjective data collection of personal narratives, the successful inclusion of adult participants (i.e., student's parents), and by presenting useful methods of evaluating the data.

Certain methods of data collection are more popular in education research evaluating classroom-based instruction. A meta-analysis written by Ronsisvalle and colleagues (2005) examines the multitude of student success measures used to evaluate education success including

academic performance (as measured by grade completion), retention (defined as enrolling in the following term), academic achievement (measured by test scores and grade distribution), and stakeholder satisfaction (measured by opinions of teachers, students, and parents). Ronsisvalle and colleagues examine the method of evaluating enrollment and retention, explaining this measure as a representation of success in serving the community and all its diverse citizens. Completion rates are described as a measure that can be evaluated in conjunction with confounding variables to find the cause of increases or decreases in grade completion. For example, Illinois Virtual High School's increase in completion rate was attributed to program experience improvements (Ronsisvalle et al., 2005).

An additional measure examined in the meta-analysis includes achievement as assessed via grades earned and test performance, as well as stakeholder satisfaction levels. Only one virtual school used stakeholder satisfaction as a measure of success, possibly pointing to the newness of online learning as a cause of limited literature using this measure (Ronsisvalle et al., 2005). Similarly, Thamtanajit and colleagues (2020) used the academic performance measure to evaluate the success of schools following school closure as a result of severe flooding natural disasters. Data were collected from school databases of student examination scores and the Geo-Informatics and Space Technology Development Agency (GISTDA) database of flood-impacted locations. Thamtanajit and colleagues (2020) were able to run statistical analyses on this data to show that flooding, correlated with the closure of those schools, was predictive of examination scores. While the meta-analysis does not outline the method of collecting data on the various measures, the current study identifies these different measures outlined in the Ronsisvalle et al. (2005) and Thamtanajit et al. (2020) studies as important to include in successful evaluation methods of the current distance learning experience. With COVID-19 posing a threat to in-

person instruction and student populations having diverse home situations, formal assessments of student achievement varied in curricula across school districts. Thus, student achievement measures would be less ideal in assessing the success of educational experiences and was not included in the dataset used for the current study. However, stakeholder satisfaction data was collected and still provides a measure of success for education experiences during the COVID-19 pandemic. Quantitative data surrounding parent satisfaction is also more easily collected from a large sample of NC parents and yields more generalizable results compared to qualitative data.

Parent Attitudes, Perceptions, and Involvement in K-12 Education

Personal narratives of stakeholder satisfaction have been identified as a possible and important measure for education evaluation (Macintyre & Macdonald, 2011; Ronsisvalle et al., 2005). Although parent narratives surrounding their satisfaction towards the education their child is receiving is not heavily researched, there is emerging literature that highlights parents' attitudes, perceptions, and involvement as an important aspect of education evaluation (Ishimaru, 2014). A 2016 study introduces the important role that parents play in their child's education as primary stakeholders (Kocayörüük, 2016). Kocayörüük delves into literature surrounding parent involvement in education and schools. The literature suggests that parent involvement has a positive effect on children's success in school. Success is not only defined in terms of academic success but also avoidance of deviant or risk-taking behavior in and out of school.

Further examination of research highlights the different types of activities parents and schools partner on including parenting, communicating, volunteering, learning at home, decision-making, and community collaboration (Kocayörüük, 2016; Stefanski, Valli, & Jacobson, 2016). Kocayörüük concludes that effective partnerships between the family (i.e., parents) and the school are the main support for children's adjustment in school. This is

especially relevant with the current change in education experience and the shifting of parent-school roles. As parents have taken on a more active role in home-learning as students and teachers cannot meet in person, their perspective on their new role may reveal the new nature of the parent-school relationship and how that might affect support for children's learning.

A qualitative study conducted by McKenna and Millen (2013) underscores the phenomenon of educators' perception of parental involvement and how at-home learning affects the service of students. This work is important to the current study as it sheds light on how educators can account for different cultural, economic, or geographic circumstances by considering parent voice and presence (McKenna & Millen). Parent voice is pivotal in the current study as we employ the perspectives and narratives of parents to measure the education experience. McKenna and Millen connect research to their study, demonstrating parent involvement as a cornerstone to school success. As we also measure the success of distance learning from the perspectives of parents as major stakeholders, McKenna and Millen's study serves as a foundation for what it looks like to evaluate parent involvement and school success.

McKenna and Millen (2013) collected qualitative data from focus groups by writing hypothetical letters to a teacher of choice about the educational experience. The results of the study brought to light themes that parents believe are important in their child's education and how the parent-school relationship can be molded to support that. Similarly, the current study will examine the perspectives of parents to identify areas of success and areas of improvement for the new education experience of distance learning. Comparable to the McKenna and Millen study, Hess and colleagues (2006) examined parents' perspectives concerning special education programs for their children. The study aimed to use the perspective to develop a better understanding of the similarities and potential mismatches between perspectives on promised

practices and inclusion of the special education students in the classroom. The results exemplify the advocacy role parents play and teachers' role in supporting them as advocates of their students. Overall, this study underscores the role parents played in education decision-making and how to collect their attitudes toward different models of special education services as a measure of success. These two studies show the importance of parent voices but also bring to the surface a need for more integration of parent voices that is not currently supported or valued enough in the eyes of K-12 administration and educators (Koch, 2020).

CHAPTER 3: METHODS

This chapter serves as a delineation of methods of data collection and data analysis. First, I will explain how participants were chosen for the online survey that will be used as the source of data in this study followed by a description of the sample demographics. Next, the design of the online survey and the procedures required to take the online survey will be discussed in detail. Additionally, the variables operationalized in this study will be defined and put into the context of my research questions and hypotheses. Lastly, a description of analyses will outline the software that will be used in statistical testing of these variables and what analyses will be run to test the research questions.

Participants

The sample of this study is comprised of parents and guardians of North Carolina K-12 students who answered a survey questionnaire created by Parents for Educational Freedom in North Carolina (PEFNC). Participants were recruited via social media and email. Emails were sent to the PEFNC personal listservs database of NC parents. In the context of the current study, “parents” refers to NC adults who have guardianship of a school-aged child enrolled in any type of educational institution. Thus, a parent is defined by the party responsible by law to manage the education among other basic needs of a NC school-aged child. All participants consented to the study by volunteering with the option to withdraw without consequences. Participants were entered into a lottery to win one of three \$100 gift cards from PEFNC as an incentive for participating. A briefing was given along with consent and incentive information prior to beginning the online survey. The briefing included the purpose of the survey and how the

information will be used following the data collection. Identifying information was collected as a means of contacting the winners of the incentive. However, all data are protected in a secure database and no identifying information will be shared with the public. The dataset used for this study was de-identified prior to data coding, cleaning, and analysis.

The sample of 835 was largely Private School (43.8%) and Traditional Public School parents (37.3%), with the remaining being Public Charter School (14.6%) and Home School parents (4.3%). Parents of elementary school children (i.e. Kindergarten – 5th grade) made up 59.3% of participants, parents of Middle school children (i.e. 6th – 8th grade) made up 24.0% of participants, and parents of High school children (i.e. 9th – 12th grade) made up 16.7% of participants. Of the whole sample, 63.1% shifted to online instruction with formal curricula, 25.2% received support through provided resources and some formal curricula, 2.5% experienced full closure, and 9.2% answered “other.” In addition to these demographics, participants were asked about their child’s student sub-group membership, if applicable (Special Education = 16.6%, English Language Learners = 1.7%, Gifted and Talented = 11.9%, Free or Reduced-Price Lunch = 21.1%). Of the participants with children in Private or Home School, 62.7% were part of the Opportunity Scholarship Program, 7.2% received a Children with Disabilities Grant, and 0.8% were Education Savings Account recipients. Other demographic information was not collected in the PEFNC survey. For additional information on participant demographics, *see Table 1*.

Procedure

Design. The current study uses a survey gathering data on the education experience of parents and their children during the months of June and July of the 2021 COVID-19 pandemic. More specifically, this *Distance Learning Parent Survey* was created by PEFNC to gain a better

understanding of parent perspectives surrounding the shift in education delivery due to the COVID-19 pandemic. The survey of participants was conducted after the first 3 months of distance learning. Additionally, the online survey was partitioned into four sections (i.e., consent information, demographics questions, transition questions, and impact questions). Questions were created based on EdChoice's Public Opinion Tracker's "Private School Survey on COVID-19" of North Carolina families (2020), EVERYSCHOOL's "Parent Survey: Your Remote Learning Experience" of United States families (2020), and PEFNC's personal questions. The aforementioned sources are nonprofit organizations that strive to educate and empower families about education opportunities and the potential for change. Both EdChoice and EVERYSCHOOL engage in research that produces surveys and results similar to what PEFNC was striving to create with their *Distance Learning Parent Survey* questionnaire survey. The response types for these questions ranged from multiple-choice, check-all-that-apply, Likert scales, and open-ended. Participants answered a maximum of 33 questions: 3 consent information questions, 8 demographics questions, 17 school transition questions, and 5 transition impact questions. All questions, except those that were open-ended, were non-optional. These response types and the carefully considered set of questions aimed to gather a comprehensive look into how North Carolina education options have addressed the COVID-19 pandemic and how these taken precautions and changes have affected parents and their children.

Procedure and Materials. The survey was conducted fully online using Qualtrics (<https://www.qualtrics.com>), a survey program accessible from each participant's personal computer, tablet, or smartphone device. The survey could be taken from an anonymous link sourced through the PEFNC website (i.e., www.pefnc.org/survey). Prior to beginning the question portion of the survey, participants were given consent information. By giving their

name, zip code, email, and proceeding from this first portion, the participants agreed to all that was outlined in the consent section of the survey (see Appendix B). Participants were asked to answer the questionnaire with the child who had the most unique experience in mind. Multiple entries were permitted for families who had more than one school-age child in the household. Continuing to the second portion, demographic questions about what school type the child is enrolled in (i.e., Traditional Public, Private, Public Charter, or Home School), grade level (Lower School K-5, Middle School 6-8, or Upper School 9-12), and sub-group belonging (Special Education, English Language Learner, Gifted and Talented, Free or Reduced-Price Lunch, or none), as well as political standing on school choice as a part of education policy, were asked. Specifically, political standing assessed participants' opinions and awareness on school choice initiatives in North Carolina education policy. Based on the participants' answers to school type, those who indicated their child attended Private School and Home School were asked which school choice programs, if any, their child is a part of (i.e., Opportunity Scholarship Program, Children with Disabilities Grant, Education Savings Account, or none). Additionally, recipients who responded to having a child who was a part of a student subgroup (i.e., Special Ed, English Language Learner, Gifted and Talented, Free or Reduced Price Lunch) were prompted with questions on how their school addressed the needs of their child before and after the transition.

Following these portions, recipients received a third portion of questions pertaining to the parent's experience and feelings around their child's transitions that occurred at their school option (e.g., description of school's transition of instruction, concerns, feelings of preparation, access and provision of materials/resources, school administration and educator communication). Recipients who answered "full closure" to the first question about the school's transition method skipped all questions about concerns, feelings of preparation, and access and provision of

materials/resources. Full closure indicated that the participant's school offered no option to continue academic instruction with the school's closure due to the pandemic. All participants were then sent to a final portion of the survey which included questions about the political ideology of school choice based on their COVID-19 education experiences (e.g., If given the choice for the 2020-2021 school year, which educational setting would you choose?), an open-ended section to share more about their personal experience, and an opt-in question to follow discussions with PEFNC representatives. Concluding the online Qualtrics survey, a thank you message was provided with a final explanation as to how their personal contribution will help the organization in its advocacy efforts.

Measures

Questions from the PEFNC survey served as the operationalization of variables of this study to answer research questions aimed at addressing the success of North Carolina schools during a pandemic. Some survey items will be collapsed to form a single variable and others will serve as the operationalized measure for a single variable. Importantly, the questions were not originally created with any scales or variables in mind for research; however, they provide the quantitative data necessary for the analysis of NC school success during the COVID pandemic.

Predictor Variable. To assess for parent perception of their child's education experience, the Parent Perception of Schools Input scale was developed. This survey item asked parents the following: *"How well do you believe each of the following has been addressed through [distance learning]?"* for which participants responded on a Likert scale (ranging from 1 to 5) for not well at all, not well, indifferent, well, and very well. This scale demonstrates a parent's perception of how well the school is delivering education instruction in six facets of education. The scale was tested for internal reliability and it was found that the Parent Perception of Schools Input scale

has good internal reliability ($\alpha = 0.89$). The six facets of this measure included Core Academics, Socialization, Developing Independence, Teaching Good Citizenship, Skills for Future Employment, and Values, Morals, and/or Religious Virtues. In this context, facets refer to the distinct areas of education that are addressed in K-12 schooling beyond subject learning areas. These facets integrate a Human Development perspective on what a child should be learning within schools including areas of cognitive/intellectual, emotional, social, and moral growth.

Independent Variables. The variables that have been hypothesized to account for differences in parent attitudes are defined by the participant's child's demographics. One of these variables was enrollment type and was operationalized through the survey item "*My child is currently enrolled at a... :*" with the response options of Traditional Public, Private, Public Charter, or Homeschool. The second variable thought to account for differences in parents' attitudes was grade level. Grade level was operationalized via the survey item "*The grade level of my child during the 2019-2020 school year is... :*" with the response options of Lower school (Kindergarten - Grade 5), Middle school (Grade 6 - Grade 8), and Upper school (Grade 9 - Grade 12). The third hypothesized variable assessed was school transition type operationalized using the question "*How would you describe your school's transition to the remote [distance] learning experience during COVID-19?*" Choice options included: Shifted to online instruction (digital) with formal curricula of required assignments, lessons, homework, etc.; Supported students by providing resources and with some formal curricula with optional assignments and resources; Full closure due to the pandemic; and Other.

Outcome Variables. The two hypothesized outcome variables in the current study included Parents Confidence in Child's Future (PCCF) and Parent's Encouragement to Seek New Opportunity (PESN). The first variable, PCCF measured their attitude towards how well the

education experience prepared their child to progress to the next grade. The PCCF variable was operationalized using the survey question “*How confident are you that your child is prepared to enter the next grade?*” on a Likert scale (ranging from 1 to 4) for I don’t believe they will progress (no confidence), my child is not prepared (low confidence), my child is somewhat prepared (moderate confidence), and my child is very prepared (high confidence). The second hypothesized outcome variable, PESN measures parent loyalty and was operationalized using the survey item “*[Distance learning] is encouraging me to consider different schooling options.*” Response choices included agree (not loyal), neutral/unsure, and disagree (loyal). This variable will demonstrate if parents’ attitude about their school is leaning towards exiting (i.e., leaving their current schooling option) or loyalty (i.e. stick with their current schooling option).

Analyses

IBM SPSS Statistics version 26 software was used to test how parent perception of school input is predictive of parent attitudes towards the school. Prior to the assessment of the research questions, the variables were analyzed for descriptive statistics including frequencies, means, standard deviations, and modes. To describe the sample, modes and frequencies were measured for the additional predictor variables of enrollment type, grade level, and transition type. Means and frequencies were used to describe parent perception of school input, Parents Confidence in Child’s Future (PCCF), and Parent’s Encouragement to Seek New Opportunity (PESN).

To examine the research question of how parent perception of school input is predictive of parent attitudes towards the school, two linear regression analyses were conducted with the single predictor variable of parent perception of school input and the two outcome variables of PCCF and PESN. This determined if and how parents' perception of school input is predictive of

their confidence in their child's future and encouragement of seeking new options. Additionally, six one-way ANOVAs were conducted to test for group differences in the two outcome variables of PCCF and PESN. The categorical independent variables of enrollment type, grade level, and school transition type were used to compare mean scores of parent attitudes. These ANOVA tests examined our research questions relating to the potential difference in mean scores of parent attitudes for the PCCF and PESN variables across enrollment type, grade level, and transition type. Furthermore, post-hoc tests were analyzed to determine which groups within the categorical predictor variables differed in mean PCCF and PESN scores if ANOVA tests showed statistically significant mean differences across the three variables of enrollment type, grade level, and transition type.

CHAPTER 4: RESULTS

Results are presented in two parts. Part one presents findings from preliminary analyses, including bivariate associations among variables. Part two presents findings from simple linear regression analyses conducted to test the hypothesized association between parent perceptions of their child's education experience and parent loyalty and the association between parent perceptions of their child's education experience and parent confidence. In addition, this section also presents findings from a series of analyses of variance (ANOVAs) analyses conducted to examine mean differences in attitudes of parent loyalty and confidence between groups for enrollment type, grade level type, and transition type.

Preliminary Analyses

Bivariate Pearson correlations were computed with key research question variables. Correlations reflect the degree of relatedness among variables and can range from -1.0 to 1.0 , with $\pm .1$ to $.3$ indicating a weak association, $\pm .3$ to $.5$ indicating a moderate association, and $\pm .5$ to 1.0 indicating a strong association (Cohen, 1988). The majority of bivariate associations were weak to moderate in strength (*see Table 2*). A significant positive association that was moderate in strength was found between parent perception of school input and parent confidence. Additionally, significant positive associations that were weak in strength were found between parent perception of school input and parent loyalty and between parent confidence and parent loyalty. Furthermore, school transition type was positively correlated with enrollment type and grade level was negatively correlated with enrollment type.

Primary Analyses

The primary hypothesis of this study was that parent perceptions will predict parent attitudes of loyalty and confidence in the educational experience. To test whether parent perception of school input is a significant predictor of a parent's loyalty (PESN), I conducted a simple linear regression. The results of the regression analyses indicated that the model explained 4.8% of the variance and that the model was significant ($F(1,834)=41.801, p<.001$). It was found that parent perceptions of school input significantly predicted parent loyalty ($\beta_1 = .034, p<.001$) such that when parents perceived the school as delivering education instruction well, parents were less likely to consider different schooling options (*see Table 3*). This indicates that the more positively a parent perceives their school, the more loyal their attitude towards that school.

Additionally, to test whether parent perception of school input is a significant predictor of a parent's confidence (PCCF), a variable examining parents' confidence in how well the education experience prepared their child to progress to the next grade, I conducted a simple linear regression. The results of the regression analyses indicated that the model explained 24% of the variance and that the model was significant ($F(1,834)=265.139, p<.001$). It was found that parent perceptions of school input significantly predicted parent confidence ($\beta_1 = .061, p<.001$) such that parents who perceived the school as delivering education instruction well had higher attitudes of confidence in their child's preparedness to progress grades (*see Table 4*).

Secondary Analyses

To determine whether the effect of parent perception on parents' attitude of loyalty differed as a function of enrollment type, grade level, transition type, a series of ANOVA (analysis of variance) tests were carried out. The one-way, between-subjects ANOVA showed that there were statistically significant differences between group means at the $p < .05$ level for

the three enrollment conditions ($F(3,842)=3.188, p=.023$). The one-way, between-subjects ANOVA showed that there were no statistically significant differences between group means at the $p < .05$ level for the three grade-level conditions ($F(2,819)=.005, p=.995$). Similarly, there were no statistically significant differences between group means at the $p < .05$ level for the four transition type conditions ($F(3,796)=.853, p=.465$). See *Table 5* for ANOVA test results with parent loyalty as the criterion.

Additionally, a Post-Hoc correlational analysis was run to test the correlation between enrollment type groups. Post-Hoc comparisons using the Tukey HSD test indicated that the mean score for Home School ($\mu = 1.754, SD = .745$) was significantly different from the Public Charter School and Private School conditions ($\mu = 2.122, SD = .823, p=.024; \mu = 2.095, SD = .833, p=.018$). This indicates that mean scores of parent loyalty were significantly lower for Home School participants than their Public Charter or Private School counterparts (*see Table 7*). However, the mean score for Traditional Public school ($\mu = 2.052, SD = .858$) was not significantly different from the Public Charter school, Private school, and Homeschool conditions.

To determine whether the effect of parent perception on parents' attitude of confidence differed as a function of enrollment type, grade level, and school transition type, an additional series of ANOVA tests were carried out. The one-way, between-subjects ANOVA showed that there were no statistically significant differences between group means at the $p < .05$ level for the three enrollment conditions ($F(3,820)=.628, p=.597$). The one-way, between-subjects ANOVA showed that there were no statistically significant differences between group means $p < .05$ level for the three grade-level conditions ($F(2,797)=.354, p=.702$) (*see Table 6*). Lastly, there were no

statistically significant differences between group means $p < .05$ level for the four transition type conditions ($F(3,775)=.380, p=.768$).

CHAPTER 5: DISCUSSION

The current study exists to evaluate the educational experiences of North Carolina K-12 students based on their parents' attitudes towards their schools during the transition from in-person learning to distance learning. Arguing that parent perceptions of how well the school is delivering education instruction is predictive of differing levels of parent loyalty to their school and parent confidence in their school, this study aims to highlight parent voice as a viable measure of school success. With the current nature of schooling being outside of the normal school structure, it can be assumed that school input has changed drastically. It can also be assumed that this drastic change in input from the school has had major effects on education outcomes much like what has been seen in previous disaster studies (Le Brocque et al., 2017; Thamtanajit, 2020; Zheteyeva et al., 2017). Thus, a change in instruction method from in-person learning to distance learning due to the effects of a worldwide pandemic could lead to drastic changes in education outcomes.

Previous studies of disaster effects on education outcomes look at academic performance and achievement, retention rates, and stakeholder satisfaction as measures of educational success (Ronsisvalle et al., 2005). The major stakeholders identified in previous education literature include students, parents, and guardians. The three major theoretical frameworks of this study shed light on why these stakeholders' voices are more important than ever. Bronfenbrenner's Ecological Systems theory in the context of educational experiences demonstrates how both

schools and parents function as influential systems on a child's learning and educational success, placing value on the thought processes of parents as a measure of success and not just measures of the student's success. Lev Vygotsky's Social Learning theory's principle of the zone of proximal development exemplifies why parent involvement is important to consider in evaluation efforts of students' educational experiences and success as they play a central role in the learning experience. Lastly, Hirschman's Exit, Voice, and Loyalty model serves as a framework for how parents, as major stakeholders and clients, may provide insight into the success or failure of the school's delivery of their child's education. These three ideas highlight the importance of evaluating parent perspectives and how it sheds light on the educational experiences of their children. Education administrators in North Carolina can capitalize on this measure of success through parent voice when other means of measuring success may be more difficult to objectively gather and analyze (such as standardized testing). The current study used parent survey responses to get a glimpse of what those measures may look like and what outcomes they may bring to light. Through regression analyses and analysis of variance, the current study tested the overall hypothesis that parent perception of school input will predict levels of parent loyalty to the school and confidence in their child's ability to progress.

Results of the study indicate that parents who perceived their school as doing very well in providing their children education during the transition from in-person to distance learning were less likely to consider different schooling options. Additionally, these parents who saw the school as delivering education instruction well had higher attitudes of confidence in their child's preparedness to progress grades. These two major findings indicate that there is a positive

relationship between parent perception of the school and the measure of success through attitudes of loyalty and confidence. The major findings from the regression analyses support our two hypotheses that more negative parent perceptions of school input will be predictive of lowered levels of loyalty and confidence, as these findings highlight a positive relationship between positive perceptions and attitudes of loyalty and confidence. Conversely, the results indicate that negative perceptions of the school's input would lead to lower levels of loyalty towards the school and lower levels of confidence in their child's ability to progress to the next grade level. The third major finding that resulted from the analysis of the data was that mean levels of parent loyalty differed between enrollment groups. The results show that the average parent loyalty score for Home school children was lower than for their Public Charter or Private School counterparts. Traditional Public School participants did not differ in means between the three other enrollment groups, indicating that being a Traditional Public School parent would not predict a large difference in the outcome measure of loyalty but being in a Home school, Public Charter, or Private School would.

Research existing outside of the current study surrounding education does not currently have any findings on the relationship between perception of service quality (education input) and attitudes of loyalty or confidence. However, prior findings surrounding natural disasters and school interruptions do work in conjunction with the current study's findings. So, while the current study does not seek to measure the negative effects of the COVID-19 pandemic, these previous studies that show the effects of natural disasters demonstrate a trend of negative input yielding negative outcomes in the education system's measures. Similar to Thamtanajit's (2020) findings that flooding had significant negative effects on the student measure of examination

scores, this study shows that negative perceptions of the input can be predictive of negative outcome measures of loyalty and confidence. Similarly, Le Brocque and colleagues' study (2017) showed that negative inputs in the form of decreased number of education days led to negative mental health outcomes of the students. So while Thamtanajit and Le Brocque's studies do not use the same variables as the current study, we find that negative input as a result of natural disasters or other major disruptions generally leads to negative outcomes. Conversely, the current study highlights that schools can make an effort to change the perceptions of parents to affect their attitudes around their loyalty to and confidence in their school.

As this study exists to fill a gap in the literature, I am unable to support my findings with previous research using parent exit, voice, and loyalty as a measure of success. However, literature applies Hirschman's explication of Exit, Voice, and Loyalty, calling upon similar hypotheses to mine that quality of services (school input) is correlated to parent exit, voice, and/or loyalty to the school (Ogawa & Dutton, 1997). A prior study generated a model for how Hirschman's framework applies to parent satisfaction as a measure, theorizing that a school's service quality has a positive relationship with parent satisfaction which in turn positively relates to parent loyalty (Bejou, 2012). Much like I did not measure parents' actualization of either voice or exit, Bejou's model similarly depicts exit and voice as extensions of an attitude of loyalty, thus being a step removed in the full model. As the only existing study that yields results on the same matter that both Ogawa, Dutton, and Bejou make a case for, I lay the framework for further exploration of the subject and further experimentation to justify my findings.

Implications of Parent Loyalty Findings

Using parent loyalty as a measure of school success, while not a direct measure of student outcomes, provides information on how the school is interacting with parents' needs and wants as the major stakeholders. Seeing as parents make the decisions on where to live, what kind of job to pursue (factors directly impacting salary and time spent out of the home), and what type of school to enroll their child in, it would be important to take into account their general attitude towards the school in the form of loyalty. As Bronfenbrenner's Ecological Theory highlights, parents are at the center of the systems that children interact with. While parents function as a system themselves influencing the child's growth as a microsystem, they also are a gateway to other systems, such as the school, influencing the children's growth (Bronfenbrenner, 1979). The parental role in education is more involved than ever for the current study, further enhancing the value of their voice as a measure of school success. Additionally, loyalty is identified as a stepping-stone in the route to either voice or exit (Bejou, 2012; Ogawa, 1997). Henceforth, parent loyalty as an attitude can serve as a measure that might reveal if the parent will need to choose between voicing concern or fully leaving the relationship they have with a school because they are no longer loyal. As identified in Bejou's model in conjunction with Hirschman's theory, all of this is thought to be a product of the service quality (*see Figure 2*). Findings of the current study support this model by showing that parent loyalty can be predicted by perceived school input, also referred to as education service quality. Furthermore, this could indicate that schools can use parent loyalty as a measure of the quality of their service. For example, if a school shows to have a fairly loyal body of parents, it can thus be assumed that parents are believing that the educational experience is providing good educational services. If not, the school could assume

that there is something that is not being addressed properly in the educational experiences of their students.

One should take into consideration parent agency when applying Hirschman's EVL theory to educational success evaluation. Participants' perceived agency may bias a parent's feelings of loyalty such that they either do not feel empowered to choose either exit or voice, or they feel very empowered to exit the school or voice their concern. While every parent has a voice and should use it in advocating for the best education for their child, not everyone may feel that they could use their voice. Additionally, a parent may not feel or know that they have other exit options if their life situation does not put them in the position to make that exit on their own. With this perceived empowerment (or lack thereof) parents could be nullifying the Bejou model of EVL (2012). With perceived disempowerment in the community and by the school, a parent may not value their own loyalty to their school as their understanding is they have no other choice. Having no other options, the parent may continue to stay "loyal," but ultimately could be dissatisfied.

Implications of Parent Confidence Findings

Measuring parents' confidence, specifically in their child's ability to progress grades, while also not a direct measure of the student's success, can provide valuable information on how students are faring in their educational experience. Seeing as the current findings show that parents felt more confident when they perceived the school in a positive light, it can be deduced that the actual quality of education services that parents pass judgment on might be leading to positive gains for the student. Parents are one of the closest systems to a child based on Bronfenbrenner's ecological theory and may be the best indirect measure of student success as a

reflection of school success. Additionally, in the case of parents of this particular study, their knowledge of the child's learning in school is enhanced as they have become co-instructors in an age of distance learning. As Vygotsky's Social Learning Theory principle, the zone of proximal development suggests that there are two individuals that contribute to excelled learning, the student and the instructor (Vygotsky, 1978). Children are naturally inclined to explore their worlds and learn from experience but in a classroom where objectives are designed to push students through offering challenges, a scaffold is needed to assist what the child cannot do on their own. Usually, the person providing scaffolds in schooling is the teacher but in the case of distance learning where students may only need to enter into the virtual classroom a few times a day, they may look to a parent or another adult in their social network for help on assignments and learning new material. Those adult helpers become the experts too in those cases and can provide valuable insight on how the student is faring.

This relationship may also prove promising when other measures such as student self-report or testing measures are less reliable options. Confidence was found to account for greater differences between parent's perception scores than parent loyalty, demonstrating that confidence would potentially be the better measure of success out of the two used in this study. However, it is important to note that not all parents play a central, involved role in a child's life. As mentioned before, a tutor or other adult figure may be that education support at home as a parent may have to fill other needs in their daily lives, such as work or caring for younger siblings or another loved one. It is also possible that other home environment and personality factors of the parent or their child might affect their attitude of confidence.

Implications of Enrollment Type, Grade Level, and Transition Type Findings

Enrollment type was measured as an additional predictor variable along with grade level and transition type. The ANOVA analyses revealed that enrollment type was the only predictor variable found to predict differences in the measure of parent loyalty. This indicates that participants' level of loyalty differed depending on the school type that their child was enrolled in. As discussed in previous section, being a Traditional Public School parent did not predict a large difference in the average outcome measure of parent loyalty, but being in a Home school, Public Charter, or Private School would show large differences in the average parent loyalty scores. Since enrollment type does show major differences between three of the four enrollment groups for the measure of parent loyalty, it can be deduced that the differences in parent loyalty scores between Home school and Public charter or Private School are due to more than just chance.

These results support the current study's hypothesis that private school participants will report higher scores of parent loyalty than the other enrollment types (e.g. the average parent loyalty score for Home school children was lower than for their Public Charter or Private School counterparts). However, Public School participant mean scores for parent loyalty and parent confidence did not significantly differ enough to be due to more than just chance. This implies that there is no need to consider between-enrollment type differences when comparing public schools to Private, Public Charter, or Home school participants. The lack of significant results in the post-hoc tests for public school participants could be due to a number of reasons. Public school parents are a diverse population with different motivators for their student's enrollment and engagement in the school. These different motivators and diverse set of values may

contribute to a wide spread of participant responses. If the data is spread enough, the mean could average out into the middle value, as seen in the results. Thus, some participants in Public school may respond more like Home school parents, some may respond like Private school parents, and some may respond like Public Charter school parents. In order for there to be significant correlation, the Public school sample would need to be skewed in one direction which I do not believe is happening here. We cannot be certain the underlying reasons but the diversity of Public school populations could be the large contributing factor for why findings do not show major differences between Public school participant loyalty score means and the other three enrollment type.

The results do not support the hypothesis that elementary school student's parents will report higher levels of loyalty and confidence in their child's education. While Thamtanajit (2020) pointed to grade level being a predictor of between-group differences in mean scores of school success measures, that was not the case here. This is most likely due to the different types of measures between the Thamtanajit study and the current study. While we measured parent loyalty and parent confidence, the Thamtanajit study measured student standardized test scores. Thus, Thamtanajit's study would not suggest that the measure of parent loyalty needs to account for grade level differences when interpreting their analysis of school success due to the differences in designed variables exists. However, it does also mean that when using parent loyalty as a measure of school success, findings across enrollment types should account for mean differences. Home school co-op organizations should consider that their average loyalty may be different from and specifically lower than the local Public Charter or Private school when comparing success scores based on parent loyalty. Schools, however, do not need to look into

differences between parents of students in different grades for future use of this measure.

Districtwide, statewide, or nationwide analysis of school success also does not need to consider the difference between transition type, which was defined as type of instruction given during the transition from in-person to distance learning, as it also did not account for any differences in average parent loyalty scores.

Limitations and Future Directions

The current study provides valuable insights into non-traditional theoretical frameworks and the mechanisms underlying parent agency through voice and exit. While Hirschman's model of EVL has been theorized to apply to education, this study pioneers the use of this model in research. Additionally, the findings of the study also show that a survey can be a reliable way to collect data from parents when measuring for academic success in the same way that the Zheteyeva et al. (2017) study researching school closure consequences showed the effectiveness of their survey design research. The quantitative nature of the data also allowed for statistical analysis and the drawing of conclusions across a large sample population of NC parents that would be more difficult in a qualitative, personal narrative format.

The current study should also consider a few limitations when discussing, interpreting, and applying these findings. The first major limitation to the study involves the design of the survey used in data analysis. The survey used was crafted by PEFNC (Parents for Educational Freedom in North Carolina) to gauge how families around the state were handling the pandemic and how that might be affecting their alignment with the organization's political agenda. The survey questions were not crafted with these specific measures or analyses in mind and may not have been interpreted by the participants in a way that would reflect thought processes

surrounding ideas of loyalty, confidence, or education service quality. While it is assumed that the identified questions used to operationalize the measures appropriately measure parent perception of input, parent loyalty, and parent confidence, future studies should intentionally create surveys to operationalize these measures.

An additional limitation of the current study was the absence of basic demographic data. While there were questions in the PEFNC survey that covered enrollment type, grade level, and student sub-group membership (e.g. Special Education, English Language Learners, Gifted and Talented, Free or Reduced-Price Lunch), there were no questions on participants race, ethnicity, sex, gender, or relationship to the student and the race of the participant's student, ethnicity, sex, or gender. These questions could be cross analyzed with the variables that measure success to reveal patterns among different student populations in the school, district, state, or nation. Future studies should include these demographic measures to enhance data analysis and organizations using these measures to calculate school success should also look to include this data as well.

The third limitation of the current study was the voluntary nature of participation in the survey data collection. The survey was disseminated by a politically tied non-profit organization whose whole listserv and social connections most likely align with the political standing that parents should be given power through policy and opportunity to choose the schools their child will attend. Thus, the participants could be largely republican in terms of education and in this study might be biased in their attitudes of loyalty or confidence based on their political affiliation. The participant sample also may not represent all North Carolina schools, students, or parents as the dissemination process was done through the email listserv and Facebook promotions by individuals affiliated with the organization. Future studies, if structured in a

similar way to the current study should work to disseminate the parent survey to as many zip codes and schools/school districts as possible. They could also include a question surrounding what district their student belongs to, ensuring that as many districts are represented in a North Carolina-wide study. Future use of these variables as measures of school success should ensure that they make the survey questionnaire mandatory for all students' parents or guardians in their intended sample.

The last limitation of the study is the language and format the survey was provided in. The PEFNC survey was provided in English only and online. This could have excluded families whose home language is not English or their proficiency in English is not high enough to understand the questions asked. Additionally, if linguistically diverse families took the survey regardless of it not being in English, understanding the questions may have been difficult and thus the participants' answers may have been less accurate of their real beliefs, perceptions, and attitudes. Additionally, the survey was only available in an online format accessible via the internet. Thus participants required access to an electronic device and Wi-Fi to take the survey that ranged in completion time from 15 to 30 minutes. This poses a barrier to students, parents, or guardians that do not have access to devices or Wi-Fi or do not have prolonged access that would allow them to complete the survey. Future studies should include multiple versions of the survey in different languages and completion formats to account for the diversity of family populations. Gauging this may include collecting demographic data on the communities' most common languages and their access to Wi-Fi and electronics.

Future research surrounding different measures of school success, including using parent voice as a measure, should consider the limitations of the current study but also the implications

that draw attention to new gaps or need for further exploration. Some of these include how to address the limitations with a specially designed survey for the purposes of the study to attempt to replicate or refute the findings in the current study. Further testing should be done to ensure that the findings of this study can be found in the same situations and populations as well as other situations and populations. The current study uses data from a period of school transition. Future studies should see if the same patterns appear during more stable times in education. Additionally, future researchers should seek to look at other types of statistical relationships such as mediation or moderation to better understand how Hirschman's model of exit, voice, and loyalty play out in an education setting.

As touched on previously, future research should also consider that parents may not fill a supplemental role at home with the child's education. Surveying parents, guardians, siblings, tutors, or other adult figures in the student's life may give the most insight into educational success. This may pose some challenges in that these other adult figures may not be easily accessible to the schools or districts, but pulling data from these individuals may be feasible on a classroom level. Research has shown that family structures exist outside of the nuclear familial mold (Fry, 2008; Langston, 1980; Tienda & Angel, 1982; Wilson & Tolson, 2010). Extended and blended families are more common than ever in student populations. The Pew Hispanic Research Center has found that Latino families are more likely to have an extended family structure compared to non-Latino White counterparts (Fry, 2008). Furthermore, Black families have also been found to take on an extended family structure including both blood-kin and non-blood-kin (Wilson & Tolson, 2010). Research has estimated the frequency of these extended familial structures ranging from 25% and 85% (Langston, 1980; Tienda & Angel, 1982).

Knowing that students come from diverse family structures, there is a case to be made that the current study may be collecting data from participants thought to be most knowledgeable about their students but in actuality, someone else may be. A future survey might consider not limiting the participant sample to parent populations but to significant adults and parental figures in the student's life.

Apart from future research, people who work in the career field of education assessment, policy, or curriculum creation can use the major finding of this study which is that attitudes parents hold about loyalty to the school and their confidence in the education provided is predicted by perception of input (service quality). These professionals can use this idea when making decisions on measuring school success and making changes to the policy and curriculum that plays a large role in ensuring education quality. Parent voices should be considered a valuable asset in evaluating areas of improvement and finding ways to improve those downfalls. Educators around the world already strive to play on the student's capital through their home life and community by utilizing strengths-based approaches and creating pedagogy that uses the student's funds of knowledge. Professionals in the world of policy and administration can start looking to the student's guardians for this same input and guidance as they are one of the major stakeholders not being taken into account in school evaluations of success thus far. Current measures include student achievement scores (test scores, student progress, and truancy) and school environment (teacher effectiveness, administration engagement, school culture, and school connectedness). These measures include the other major stakeholders - students, teachers, administration - but do not account for the other stakeholder role of parents or guardians.

Conclusion

Two important implications can be drawn from this study. First, we have a special insight into what parents are saying in response to their school's coronavirus mitigation efforts in the 2019-2020 school year. These insights are not always available from such a large group of students' parents and guardians. Teachers and administrators alone should seek out these parent voices as this study shows that they are out there, they are attainably gatherable, and they can be used to measure how well they are providing education to students. These voices are accessible and they may be silent or silenced for any number of barriers and reasons that this study does not explore. From the parent voices we were able to collect, it was found that parent perceptions of school input significantly predicted both parent loyalty and confidence. Indeed, parents who positively perceived the school delivery of education instruction had higher attitudes of loyalty to the school and confidence in their child's preparedness to progress grades. Additionally, parent responses on the loyalty measure differed depending on what school their child was enrolled in. Ultimately, using these measures of loyalty and confidence in accordance with Hirschman's explication of exit, voice, and loyalty may help NC and United States schools, districts, or states better prepare for and react to another pandemic or natural disaster. School will never go entirely back to the way things were, presenting a unique opportunity to advocate for change during these times. This study exists as an example of using parent voice as a measure of educational and school success, and as a challenge to administrators, teachers, and parents to advocate for their own voices in these matters including efforts to measure success.

TABLES

Table 1

Descriptive Statistics of PEFNC Survey Demographic Information and Variables

Measure	N	M	SD	%
Transition Type	931	1.580	.921	
Shifted online				63.1
Provided support				25.2
Full Closure				2.5
Other				9.2
Grade Level	953	1.590	.769	
Elementary school (K-5)				58.7
Middle school (6-8)				23.9
High school (9-12)				17.4
Enrollment type	977	2.190	1.009	
Traditional Public school				36.5
Public Charter school				14.8
Private school				42.0
Home school				6.7
Parent Confidence	836	3.316	.682	
1 – no confidence				1.3
2 – low confidence				8.5
3 – moderate confidence				47.5
4 – high confidence				42.7
Parent Loyalty	858	2.050	.839	
1 – not loyal				32.8
2 – neutral				29.5
3 – loyal				37.8
Parent Perception of Input	844	19.012	5.452	

Table 2***Correlations of Study Variables***

Measure	1	2	3	4	5	6
1. Transition Type	-					
2. Grade Level	.004	-				
3. Enrollment Type	.104*	-.084*	-			
4. Parent Confidence	.009	-.027	.018	-		
5. Parent Loyalty	-.046	.003	-.031	.170*	-	
6. Perception of Input	-.038	-.020	-.018	.491**	.218*	-

* Weak correlation is significant at the 0.01 level (2-tailed)

** Moderate correlation is significant at the 0.01 level (2-tailed)

Table 3***Regression Analysis for Parent Perception of Input on Parent Loyalty***

Variable	B	95% CI	β	<i>t</i>	<i>p</i>
(Constant)	1.411	[1.209, 1.613]		13.727	.000
Parent Loyalty	.034	[.023, .044]	.218	6.465	.000

Note. $R^2=.048$ ($N=852$, $p<.001$), CI = confidence interval for B.

Table 4***Regression Analysis for Parent Perception of Input on Parent Confidence***

Variable	B	95% CI	β	<i>t</i>	<i>p</i>
(Constant)	2.147	[2.001, 2.294]		28.769	.000
Parent Confidence	.061	[.054, .069]	.491	16.283	.000

Note. $R^2=.241$ ($N=836$, $p<.001$), CI = confidence interval for B.

Table 5***Analysis of Variance Using Parent Loyalty as the Criterion***

Predictor	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Enrollment Type	6.660	3	2.220	3.188	.023
Grade Level	.007	2	.004	.005	.995
Transition Type	1.801	3	.600	.853	.465

Table 6***Analysis of Variance Using Parent Confidence as the Criterion***

Predictor	Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p</i>
Enrollment Type	.874	3	.291	.628	.597
Grade Level	.332	2	.166	.354	.702
Transition Type	.553	3	.178	.380	.798

Table 7***Parent Loyalty Post-Hoc Tukey HSD^{a,b}***

		Subset for alpha = 0.05	
Enrollment Type	N	1	2
Home school	61	1.754	
Traditional Public school	307		2.052
Private school	347		2.095
Public Charter school	131		2.122
Significance		1.000	.904

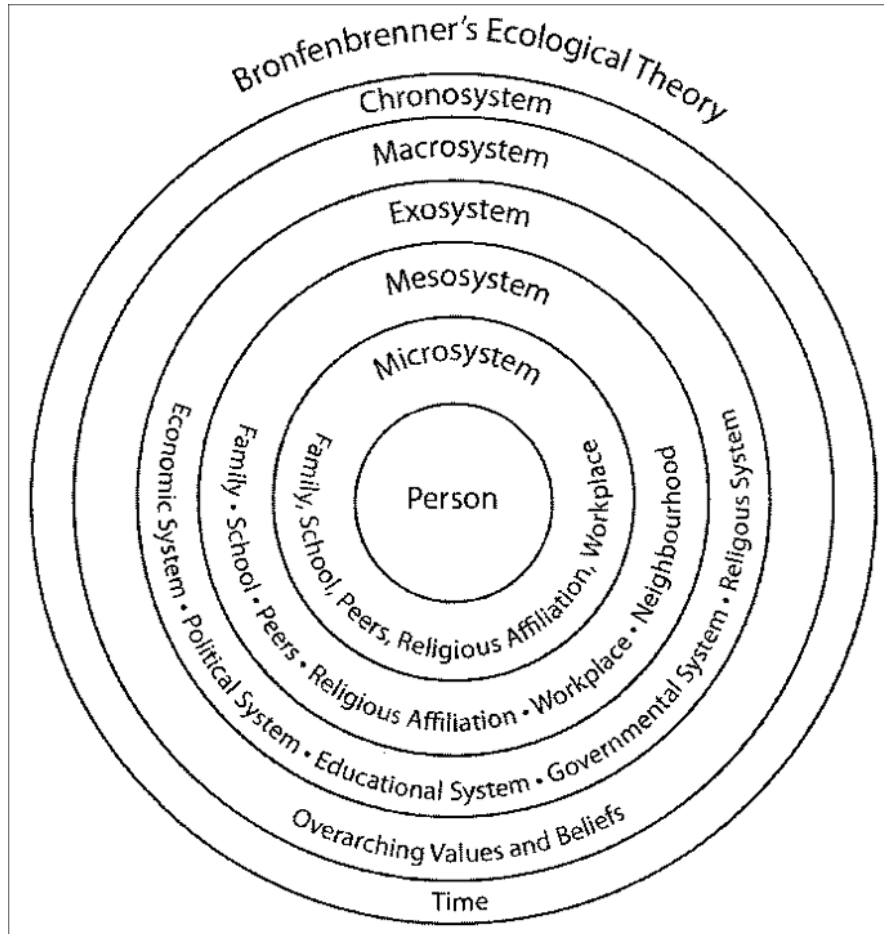
Note. Means for groups in homogeneous subsets are displayed.

- a. Uses Harmonic Sample Size = 132.599
- b. The group sizes are unequal. The harmonic means of the group sizes is used. Type I error levels are not guaranteed.

FIGURES

Figure 1

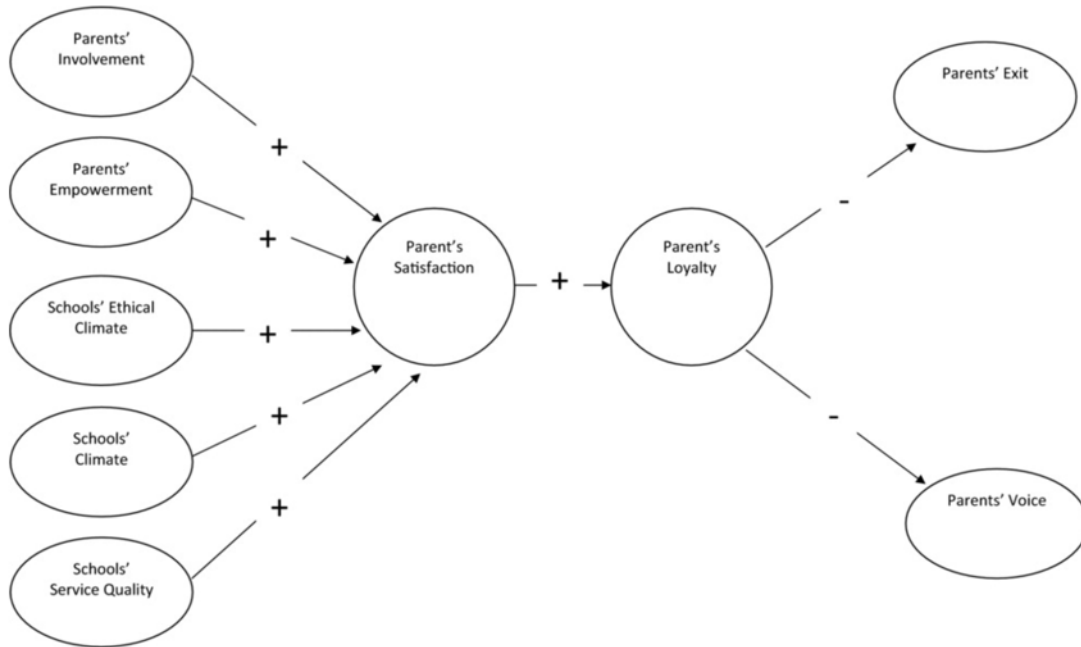
Diagram of Bronfenbrenner's Ecological Systems Theory



Note. An adapted illustrated model of a Bronfenbrenner's Ecological Theory from Stranger 2011 study (Adapted from Berger, 2007).

Figure 2

Customer Relationship Management; Exit, Voice, and Loyalty; and Satisfaction.



Note. Bejou's (2012) proposed conceptual model of customer relationship management in the context of public schools and parent satisfaction based on Hirschman's framework of exit, voice, and loyalty.

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Appendix A

NCIM Influenza Pandemic Mitigation Effort Recommendations¹

Community Strategy for Pandemic Influenza Mitigation

US Department of Health and Human Services¹

Appendix F

Table F.1
Summary of Community Mitigation Strategy by Pandemic Severity

Interventions ^c by Setting	Pandemic Severity Index		
	1	2 and 3	4 and 5
Home			
Voluntary isolation of ill at home (adults and children); combine with use of antiviral treatment as available and indicated	Recommend ^{1a}	Recommend ^{1a}	Recommend ^{1a}
Voluntary quarantine of household members in homes with ill persons (adult and children); consider combining with antiviral prophylaxis if effective, feasible, and quantities sufficient ^d	Generally not recommended	Consider ^{2b}	Recommend ^{2b}
School			
Child social distancing			
Dismissal of students from schools and school-based activities, and closure of child care programs	Generally not recommended	Consider ≤ 4 weeks ^{1b}	Recommend ≤ 12 weeks ^{1b}
Reduce out-of-school social contacts and community mixing	Generally not recommended	Consider ≤ 4 weeks ^{1b}	Recommend ≤ 12 weeks ^{1b}
Workplace/Community			
Adult social distancing			
Decrease number of social contacts (eg, encourage teleconferences, alternatives to face-to-face meetings)	Generally not recommended	Consider	Recommend
Increase distance between persons (eg, reduce density in public transit, workplace)	Generally not recommended	Consider	Recommend
Modify, postpone, or cancel selected public gatherings to promote social distancing (eg, stadium events, theater performances)	Generally not recommended	Consider	Recommend
Modify workplace schedules and practices (eg, telework, staggered shifts)	Generally not recommended	Consider	Recommend

Source: US Dept. of Health and Human Services. Community strategy for pandemic influenza mitigation. Available at: <http://www.pandemicflu.gov/plan/community/commitigation.html#XVI>. Accessed February 14, 2007.

Generally Not Recommended = Unless there is a compelling rationale for specific populations or jurisdictions, these measures are generally not recommended for entire populations as the consequences may outweigh the benefits.

Consider = It is important to consider these alternatives as part of a prudent planning strategy, considering characteristics of the pandemic, such as age-specific illness rate, geographic distribution, and the magnitude of adverse consequences. These factors may vary globally, nationally, and locally.

Recommended = These interventions are generally recommended as an important component of the planning strategy.

Appendix F

Community Strategy for Pandemic Influenza Mitigation US Department of Health and Human Services

Table F.2
Pandemic Severity Index by Epidemiologic Characteristics

Pandemic Severity Index					
Characteristics	Category 1	Category 2	Category 3	Category 4	Category 5
Case Fatality Ratio (percentage)	<0.1	0.1 - <0.5	0.5 - <1.0	1.0 - <2.0	≥ 2.0
Excess Death Rate (per 100,000)	<30	30 - <150	150 - <300	300 - <600	≥ 600
Illness Rate (percentage of the population)	20-40	20-40	20-40	20-40	20-40
Potential Number of Deaths (based on 2006 US population)	<90,000	90,000 - <450,000	450,000 - <900,000	900,000 - 1.8 million	≥ 1.8 million

Case fatality ratio: Proportion of deaths among clinically-ill persons.

Excess rate: Rate of an outcome (eg, deaths, hospitalizations) during a pandemic above the rate that occurs normally in the absence of a pandemic. It may be calculated as a ratio over baseline or by subtracting the baseline rate from the total rate.

- * All these interventions should be used in combination with other infection-control measures, including hand hygiene, cough etiquette, and personal protective equipment such as face masks. Additional information on infection control measures is available at www.pandemicflu.gov.
- † This intervention may be combined with treatment of sick individuals using antiviral medications and with vaccine campaigns, if supplies are available.
- § Many sick individuals who are not critically ill may be managed safely at home.
- ¶ The contribution made by contact with asymptotically infected individuals to disease transmission is unclear. Household members in homes with ill persons may be at increased risk of contracting pandemic disease from an ill household member. These household members may have asymptomatic illness and may be able to shed influenza virus that promotes community disease transmission. Therefore, household members of homes with sick individuals would be advised to stay home.
- ** To facilitate compliance and decrease risk of household transmission, this intervention may be combined with provision of antiviral medications to household contacts, depending on drug availability, feasibility of distribution, and effectiveness.
- †† Consider short-term implementation of this measure—that is, less than 4 weeks.
- §§ Plan for prolonged implementation of this measure—that is, 1 to 3 months; actual duration may vary depending on transmission in the community as the pandemic wave is expected to last 6-8 weeks.

References

- i. Dept. of Health and Human Services. Community strategy for pandemic influenza mitigation. Available at: <http://www.pandemicflu.gov/plan/community/commitigation.html#XVI>. Accessed Feb. 14, 2007

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Appendix B

COVID-19 Impact: Education Transition Experience

Start of Block: Welcome & Consent

Welcome!

Thank you for completing this brief education survey for Ally Washington at the University of North Carolina at Chapel Hill in partnership with Parents for Educational Freedom in North Carolina.

This study is being conducted as a research project on how the recent COVID-19 pandemic has affected the educational experience of North Carolina students and their families from all education options. You will see questions directed to you as a participant assuming you are a parent or guardian of a student. If you have multiple children in school, I encourage you to answer the questions based on the experience of the child whose educational experience has seen the greatest impact due to COVID-19. Multiple submissions are welcomed and highly encouraged for those who have more than one child. This helps us to better understand your family and North Carolina as a whole.

The survey should not take long (no more than 10 minutes) and you may withdraw at any point without consequence. Please provide your name, an email we can reach you at for follow-up discussion, and Zip Code. Any personal identifying information will remain confidential and will be protected in secure databases. No personal identifying information will be shared with the public.

All who complete the survey will be entered in a chance to win a \$100 gift card. If you win the \$100 giveaway, a representative from Parents for Educational Freedom in North Carolina will reach out to you for your mailing address to ensure your prize gets to you.

Name:

Email:

Zip Code:

By proceeding, you acknowledge that you are a parent/guardian of a North Carolina student, have read the above information, and consent to take part in this study.
Thank you!

End of Block: Welcome & Consent

Start of Block: Preliminary Questions

1 My child is currently enrolled at a:

- ☐ Traditional Public School (1)
- ☐ Public Charter School (2)
- ☐ Private School (3)
- ☐ Home School (4)

Display This Question:

If 1 = Private School

1.1 Does your child receive any of the following:

- ☐ Opportunity Scholarship (1)
- ☐ Children with Disabilities Grant (2)
- ☐ Education Savings Account (3)

- o None of the above (4)

Display This Question:

If 1 = Home School

1.2 Does your child receive any of the following:

- o Children with Disabilities Grant (1)
- o Education Savings Account (2)
- o None of the above (3)

2 The grade level of my child during the 2019-2020 school year:

- o Lower school (Kindergarten – Grade 5) (1)
- o Middle school (Grade 6- Grade 8) (2)
- o Upper school (Grade 9 – Grade 12) (3)

3 Check all sub-groups your child belongs to [check all that apply to your child]:

- ☐ Special Education (1)
- ☐ English Language Learners (2)
- ☐ Gifted and Talented (3)
- ☐ Free or Reduced Price Lunch (4)
- ☐ My child does not belong to a sub-group (5)

Skip To: 4 If 3 = My child does not belong to a sub-group

3.1 Does your school typically provide specialized support for your child's unique needs?

- o Yes, our school typically provides specialized support for my child's needs (1)
- o No, our school does not typically provide specialized support have for my child's needs (2)

Skip To: End of Block If 3.1 = No, our school does not typically provide specialized support have for my child's needs

3.2 Do you feel as though your child's needs are continuing to be met at the same level of support during remote instruction?

- o Yes (1)
- o No (2)

4 School choice gives parents the freedom to choose the school that meets their child's educational needs. Do you believe North Carolina gives you this opportunity?

- o Yes (1)
- o No (2)
- o Unsure (3)

5 If given the choice at the beginning of the current 2019-2020 school year, which educational setting would you have chosen?

- o Traditional Public School (1)
- o Public Charter School (2)
- o Private School (3)
- o Home School (4)

End of Block: Preliminary Questions

Start of Block: Education Transition Questions

6 How would you describe your school's transition to remote learning experience during COVID-19?

- Shifted to online instruction (digital) with formal curricula of required assignments, lessons, homework, etc. (1)
- Supported students by providing resources and with some formal curricula with optional assignments and resources (2)
- Full closure due to the pandemic (3)
- Other (4) _____

Skip To: 19 If 6 = Full closure due to the pandemic

7 What are some of your concerns around the effect COVID-19 has had on your child's overall educational experience? [Check all that apply]

- ☐ The school has had difficulty implementing instructional programs that continues to support my child's ability to learn (1)
- ☐ The school has been unable to provide extracurricular and after-school activities/events (2)
- ☐ My child has not had access to the food program that they were typically used to when school was open (3)
- ☐ I have been unable to work, impacting our family's financial situation (4)
- ☐ I must work and cannot provide additional help or instruction to my child (5)
- ☐ My child has not received the resources or services they normally receive at school (example: Speech therapy, tutoring, etc..) (6)

8 How prepared did you feel as a parent/guardian to transition your student to remote instruction due to COVID-19?

	Very prepared (1)	Somewhat prepared (2)	Not prepared (3)	Not prepared at all (4)	Unsure/indifferen t (5)

I felt... (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
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9 How prepared do you feel your administrators and teachers were to transition to remote instruction due to COVID-19?

	Very prepared (1)	Somewhat prepared (2)	Not prepared (3)	Not prepared at all (4)	Unsure/indifferent (5)
My administrators and teachers were... (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10 How do you feel about managing the remote learning experience for your child/children?

	Very easy (1)	Easy (2)	Difficult (3)	Very Difficult (4)
Managing my child's remote learning is: (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

11 What are your feelings about how much your child's remote learning experience is requiring of you?

	Too much of me (1)	A lot of me (2)	A moderate amount (3)	A little of me (4)	Too little of me (5)
	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My child's
remote
learning
program is
requiring:
(1)

○

○

○

○

○

12 What are your feelings about how much your child's remote learning experience is requiring of them?

Too much of
my student
(1)

A lot of my
student (2)

A moderate
amount (3)

A little of
my student
(4)

Too little of
my student
(5)

My child's
remote
learning
program is
requiring:
(1)

○

○

○

○

○

13 How well do you believe each of the following has been addressed through remote instruction?

Very well
(1)

Well (2)

Indifferent
(6)

Not well (7)

Not well at
all (9)

⊗ Core
Academics (1)

○

○

○

○

○

⊗ Socialization
(2)

○

○

○

○

○

⊗ Developing Independence (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
⊗ Teaching good citizenship (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Skills for future employment (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Values, morals, and/or religious virtues (8)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

14 What materials are provided by the school for your child's remote learning?

- ☐ Print based (1)
- ☐ Digital/internet based (2)
- ☐ Both (3)
- ☐ Neither (4)
- ☐ Other (5) _____

15 Check all resources your child has access to as a student:

- ☐ School issued digital devices for remote learning (laptop, tablet, etc.) (1)
- ☐ Home bought digital devices for remote learning (laptop, tablet, etc.) (2)
- ☐ Internet access for learning (3)
- ☐ School-provided/funded online educational tools (examples: Zoom, Canvas, myBackpack, Google Classroom, Khan Academy, etc.) (4)
- ☐ Self-provided/funded online educational tools (examples: Zoom, Canvas, myBackpack, Google Classroom, Khan Academy, etc.) (5)

- ☐ Internet access for learning (6)
- ☐ School-provided meals for student (7)
- ☐ Home-provided meals for student (8)
- ☐ Other (9) _____
- ☐ None of the above (10)

16 How often do you hear from your school's administrators and staff (non-teachers) relating to the transition efforts of the school?

- ☐ Daily (1)
- ☐ Few times a week (2)
- ☐ Once a week (3)
- ☐ Less than once a week (4)
- ☐ Never (5)

Skip To: 17 If 16 = Never

16.2 How do administrators and staff communicate? [check all that apply]

- ☐ Live video (1)
- ☐ Pre-recorded video (2)
- ☐ Email (3)
- ☐ Phone Call (4)

17 How often do teacher-student video meetings occur?

- ☐ Daily (1)
- ☐ Few times a week (2)
- ☐ Once a week (3)

- o Less than once a week (4)
- o Never (5)

18 How confident are you that your child is prepared to enter the next grade level?

- o My child is very prepared (1)
- o My child is somewhat prepared (2)
- o My child is not prepared (3)
- o I don't believe they will progress to the next grade. (4)

19 Is remote learning required for your child to progress to the next grade?

- o Yes (1)
- o No (2)
- o Unsure (3)

20 Remote learning is encouraging me to consider different schooling options.

- o Agree (1)
- o Disagree (2)
- o Neutral/Unsure (3)

21 Which of these leaders/representatives do you feel has had the largest decision making authority or impact on the education of your child during COVID-19?

- o Governor Roy Cooper (1)
- o State Representative/Senator (2)
- o Town/City Leaders (Mayor, City Council, County Commissioner) (3)
- o Local School Board (4)
- o Unsure (5)

End of Block: Education Transition Questions

Start of Block: Concluding Questions

22 If given the choice for the 2020-21 school year, which educational setting would you choose and tell us why?

- ☐ Traditional Public School (1)

- ☐ Private School (2) _____

- ☐ Public Charter School (3) _____

- ☐ Home School (4) _____

23 I have become more aware of education policy and laws due to COVID-19.

- ☐ Strongly agree (1)
- ☐ Somewhat agree (2)
- ☐ Somewhat disagree (3)
- ☐ Strongly disagree (4)

24 I feel more inclined to support laws and policies that give parents the freedom to choose the school that meets their child's educational needs.

- ☐ Strongly agree (1)
- ☐ Somewhat agree (2)
- ☐ Somewhat disagree (3)
- ☐ Strongly disagree (4)

25 Please use this space to share your personal story of how COVID-19 has affected your child's/children's educational experience.

26 Can we reach out to you to learn more about your experience?

- ☐ Yes (1)
- ☐ No (2)

End of Block: Concluding Questions