

4-12-2020

## Family Matters. Or Does It? Family Involvement in American Education

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**FAMILY MATTERS. OR DOES IT?  
FAMILY INVOLVEMENT IN AMERICAN EDUCATION**

A Dissertation

Submitted to the Graduate Faculty of the  
Louisiana State University and  
Agricultural and Mechanical College  
in partial fulfillment of the  
requirements for the degree of  
Doctor of Philosophy

in

The Department of Sociology

by

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May 2020

I dedicate my dissertation to my wife (Suzette), my daughters (Rachel, Sarah, and Violet) and any children who may come in the future, my parents (Michael and Jennifer), my siblings (John, Rose, and Elijah), my parents in-law (Judel and Daisy), my siblings in-law (Dhelsy, Michael, and Michelle), and to all those who have stood by my side over the years assisting me on this journey (both those still with us and those who have gone on ahead). Your struggles against and subsequent perseverance over adversity serve as constant inspiration for me. I am what I am today thanks to you all. I love you.

## **ACKNOWLEDGEMENTS**

First, I would like to thank my dissertation committee members for advising me throughout the process of writing this paper. Dr. Schafer: thank you for serving as my committee chair since I began working on my thesis and serving as a mentor to me. Under your guidance, I have become a more focused and attentive scholar and educator. Dr. Kamo: thank you for serving on my committee since my general exam and sharing your extensive quantitative methodological knowledge. You have held me accountable throughout the process and helped to refine me into the methodologist I am today. Dr. Stroope: thank you for serving on my committee since I began working on my thesis. You broadened my academic horizons from the day I began my journey at LSU and have continued doing so ever since. Dr. Garand: thank you for serving on my committee since my general exam and for serving as a mentor to me. The guidance and counsel you've provided me since I started at LSU has been invaluable to me.

Second, I would like to thank my family, my colleagues in political science and sociology, and my friends for providing me boundless support across my journey through graduate school. I know I have not always been the easiest to contend with and I appreciate you sticking through this with me to the end. Your support means more to me than I can ever hope to express.

Lastly, I would like to thank my students. Going through my journey at LSU and working with you as you have gone through yours has been an amazing gift. I wish you nothing but success as you proceed further in your journeys through life. I look forward to seeing the amazing things you all accomplish moving forward!

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## **NOMENCLATURE, SYMBOLS, ACRONYMS**

FSI = familial involvement with the school institution

ISC = involvement through sociocultural capital investment

K-5 = Kindergarten through Fifth Grade

NFC = need for closure

NRPS = Non-religious private school

OGLM = ordinal generalized linear modeling

OLS = ordinary least squares

PFI-NHES = Parent and Family Involvement in Education Survey from the National Household  
Education Surveys Program

PRNC = Private religious non-Catholic school

PSW = parent involvement with schoolwork

## **ABSTRACT**

“Family Matters. Or Does It?” uses select data and waves from the 1996-2016 Parents and Family Involvement in Education Surveys to investigate the following research questions in its efforts to probe the influence of familial involvement: (1) Does child behavior influence family involvement; (2) has the effect of family involvement on academic performance persisted over the past two decades; (3) does school selection influence family involvement; and (4) are homeschooling families monolithic in their involvement? Results indicate that behavior has unique associations with involvement, with no support being found for the reactive involvement hypothesis. Family involvement has a generally positive linkage with student academic performance. Familial school selection has a strong association with family sociocultural investment, particularly in the case of homeschoolers. First-choice homeschooling family status was positively associated with sociocultural investment, suggesting that family school selection motivations may influence their level of involvement. This dissertation argues that family involvement is multifaceted and should be probed to tease out further influential factors and forms of involvement.

## **CHAPTER 1.**

### **INTRODUCTION**

Social scientists have long investigated the extent to which familial involvement serves as an influential element in children's academic success (Epstein 1987; Gonzalez-DeHaas et al. 2005; Grace et al. 2012; Hornby 2011; Im et al. 2016; LaRocque et al. 2011). Lareau's (1987, 2000, 2003) work examining family involvement has been foundational to the field, noting that although involvement differs by disadvantage, all families strive to remain as involved as their respective stations permit and program. Epstein's (1995) work has been influential also, presenting the case for an enhanced understanding of the makeup of family involvement. They posited that involvement should be examined as a complex construct, comprised of diverse interrelated elements with potentially divergent effects on child outcomes (Epstein 1995). Proceeding research has reinforced aspects of these findings across a host of different cultures and nationalities (Blair 2014; Domina 2005; Graves and Wright 2011; Hong and Ho 2005; McNeal 1999; Senler and Sungur 2009). Much of the discourse on family involvement has pointed to it being key for a gamut of positive academic outcomes ranging from behavior to achievement (Cripps and Zyromski 2009; El Nokali et al. 2011; Verroneau and Dishion 2010).

Some examinations have found this relationship to be more intricate, however, noting either a null effect or even negative outcomes for students whose families became involved (Domina 2005; Mattingly et al. 2002; McNeal 1999; Robinson and Harris 2014). These studies argue involvement such as familial homework assistance or behavioral intervention nets a negative association with student performance (Milne et al. 1986; McNeal 1999; Robinson and Harris 2014). This has led some researchers to engage in near patronizing discourses on family involvement, intimating families are ill equipped on their own to involve themselves without intervention (Downey 2002). Yet others argue quite the contrary, suggesting that family



involvement is an integral part of student success—though some acquiesced that homework assistance was still largely unbeneficial (Wilder 2014).

The implications of this vein of research are wide-reaching, as many policy promulgators have reflected extant research in their proposed initiatives (Robinson and Harris 2014; Wilder 2014). From the No Child Left Behind Act to the Common Core State Standards Initiative, family involvement and partnership with schools have been emphasized in order for these policies to net the best outcomes (Achieve 2013; Jeynes 2012; Wilder 2014). As a result, it is essential to predicate such policies on research which has taken a comprehensive look at familial involvement and assessed it from a variety of perspectives. This dissertation looks to add to the broad existing body of literature on familial involvement by providing a multifaceted study of involvement as well as a focused examination of involvement in an understudied community.

A majority of the existing research into child behavior and its interplay with family involvement focuses on familial involvement as motivated by negative behavioral stimuli (Garcia and Hoang 2015; Greenberg et al. 2014). Few studies have examined the association between positive child behavior and involvement, with most choosing to couch any address of positive factors within a narrative and analysis of negative ones. Studies such as McNeal (1999, 2012) posit that the motivating element for family involvement is one of reaction to negative outcomes. This hyper-focus on negative behavior leads to incomplete understanding of behavior as a motivating element for involvement. “Family Matters. Or Does It?” will explore the behavior in a more expansive fashion to assess whether such exclusive focus is merited in matters of involvement.

Although several studies have examined the relationship between involvement and student performance, few have addressed whether this impact has persisted over time and fewer

still parse out involvement into differing forms. Investigations into familial involvement would be remiss if they did not consider and explore the possibility that the relationship between involvement and performance might differ as a result of the cultural shifts which have taken place over the last few decades. This dissertation will contribute to filling this hole in the literature through investigating the association between three separate forms of familial involvement and student performance through cross-sectional pooled regression analysis.

While the family involvement literature has covered a broad range of areas and communities, it has largely overlooked the influence of school selection and overlooked the homeschooling community as a whole. When one considers that homeschooling families end up being some of the most involved families by definition—as they are engaging directly as educators—it seems odd not to investigate this community further. Some such as Lois (2006, 2009, 2010, 2012) have attempted to rectify this by conducting and presenting rich qualitative works providing a window into this hidden community. There remains a dearth of quantitative literature on the matter, however, leading organizations such as the National Center for Education Statistics to prepare survey instruments focusing on the homeschooling experience in order to foster a greater understanding about it. These efforts notwithstanding, virtually no quantitative research has been conducted into the manners of involvement homeschooling families engage in and what influences their involvement. This work will rectify this through quantitatively exploring aspects of differentiation across familial school selections and involvement as well as the involvement of homeschooling families.

This dissertation is comprised of five chapters. Chapter 1 presents an introduction to the subject matter in consideration. Chapter 2: Child Behavior and Involvement examines the interplay between child behavior and family involvement in children's education. Chapter 3: The

Effects of Family Involvement on Elementary Academic Outcomes: 1996-2016 take a look at the linkage between student academic performance and family involvement through pooled regression analysis. Chapter 4: Homeschool Family Investment in Children's Education examines the interaction of family school selection and motivations with family sociocultural investment, with a particular focus on homeschooling families. Chapter 5 concludes the dissertation, explaining how the findings address the stated research questions. The final chapter also considers implications of the dissertation's findings and future directions of research.

The next section addresses how this work will contribute to the greater parent and family involvement literature through its examinations of elements which influence involvement and involvement's subsequent associations with student performance outcomes.

## **RESEARCH QUESTIONS AND APPROACH**

This dissertation examines the involvement literature's shortcomings by addressing the following questions (1) Does child behavior, positive and negative, influence family involvement; and does this differ by form of involvement? (2) Has family involvement remained influential on student performance over the past two decades? (3) Does familial school selection influence familial sociocultural investment; and are homeschooling families monolithic in this aspect? It examines these topics through diverse quantitative analyses utilizing various waves from the 1996-2016 Nation Center for Education Statistics's Parent and Family Involvement in Education surveys, a nationally representative U.S. study whose iterations have been analyzed through the parent and family involvement literature.

Each of the three substantive paper chapters address the greater question of contemporary family involvement effects by focusing on different factors and operationalizations of involvement. Chapters 2 and 4 address understudied factors of potential influence on

involvement: positive child behaviors and school selection—both the selection itself and commitment to it. Chapter 3 probes involvement’s impact on performance, a relatively saturated area of the field, but does so through parsing involvement out into multiple multifaceted categories and pooled analysis. Studying these aspects regarding family involvement provide an enhanced illustration of the larger concept of involvement and its complex nature.

Chapter 2 addresses the first research question(s) by accounting for the diversity of child behavior and familial involvement, as opposed to just one or the other. This section accomplishes this through examining not only deleterious, but also beneficial reported behaviors. In doing so, it controls for items traditionally associated with behavior, but are not inherently behaviorally derived. It also considers involvement through three separate measures—1) interaction with school, 2) homework assistance, and 3) sociocultural investment—thereby ensuring a more comprehensive examination of the concept at hand.

Chapter 3 addresses the second research question by investigating the relationship between familial involvement and performance. Similar to Chapter 2, this chapter also addresses family involvement through separate measures. It does, however, parse out storytelling from sociocultural investment, given its educational connotation, resulting in storytelling serving as a pseudo de facto replacement for homework assistance. As a result, it considers involvement through three separate measures as well—1) interaction with school, 2) sociocultural investment, and 3) familial storytelling—thereby ensuring a comparably comprehensive treatment of the concept in question.

Chapter 4 addresses the third research question(s) through first pursuing an investigation into familial school selection associations with familial sociocultural investment. Upon detection of a clear indicator of differentiation between homeschooling families and their other

contemporaries, it proceeds to focus on potential points of differentiation within the community as outlined by Lois (2012). The resulting analysis investigates whether homeschooling families termed ‘first-choice’ homeschoolers differed from their ‘second-choice’ compatriots in their sociocultural investments, thereby providing one of the first quantitative examinations into this aspect of the community.

## **SIGNIFICANCE OF STUDY**

The veins of research tackled throughout this dissertation provide unique insights into understudied topics as well as elements of reinforcement and critique for prior findings in the literature. This study highlights the importance of family involvement to positive student academic outcomes. It also underscores the need for a comprehensive understanding of factors which influence involvement in all its forms. As a matter of course, the study additionally promotes the import of investigating the widening gender gap in education and potential gender gap in family investment. The following section briefly summarizes the major findings associated with this study’s primary research contributions.

## **KEY FINDINGS**

This dissertation’s three substantive chapters provide important findings that cover different dimensions of involvement and influences on involvement. Chapter 2 indicates child behavior to have varying associations with involvement, depending on the form of involvement in question. Chapter 3 confirms previous research findings on the beneficial effect of involvement on student performance, while presenting new findings on an understudied form of involvement (familial storytelling). Chapter 4 suggests familial school selection has a somewhat complex association with sociocultural investment, with home school selection netting the most positive outcome. The subsequent examination of the homeschool community found selection of

homeschooling as a family's first choice may be associated with greater sociocultural investment. These results both expand the scarce literature covering select forms of involvement and behavioral effects and add to the healthy literature on parent and family involvement in education.

## **CHAPTER 2.**

### **CHILD BEHAVIOR AND FAMILY INVOLVEMENT**

#### **INTRODUCTION**

There has been quite a bit of research over the years into the stagnation of the American education system and ways to improve student academic success and outcomes. When considering student academic success, a host of influential factors have been identified ranging from family socioeconomic status to student behavior and deviant activities. In modern America, the latter is one of the most focused upon and poignant points of concern for families regarding issues of bullying, violence, and other problematic behaviors.

When it comes to deviant behaviors such as bullying, extant literature has noted a linkage between one's peer group presence and behavior with bullying episodes (Atlas and Pepler 1998; Craig et al. 2000; Duffy and Nesdale 2009; O'Connell et al. 1999; Salmivalli et al. 1996). Similar links have been found between other problematic behaviors and one's peer group influence (Dishion et al. 2004; Im et al. 2016; Verroneau and Dishion 2010). Research has suggested that interactions with one's social support network—friends and family members—can curb some of these issues with deviant group association (Im et al. 2016; Larose and Boivin 1998).

Peer group rejection has been found to have mixed effects on preventing and discontinuing problematic behaviors, but generally leads students to align with different and generally problematically deviant peer groups (Dishion and Patterson 2006; Dodge 1983; Dodge et al. 2003). Familial involvement via parental monitoring and parent school knowledge, however, has been noted to provide a chilling effect on these deviant associations and problematic behaviors, instead encouraging positive school involvement (Farrington 2005; Im et al. 2016; Verroneau and Dishion 2010). This paper will examine this association from a slightly different perspective, probing the ways in which child behavior shapes family involvement in

education. It will investigate whether children's behavior stimulates or depresses family involvement across three separate categories of involvement: 1) family interactions with school, 2) family involvement with schoolwork, and 3) family investment in child sociocultural capital.

## **CONCEPTUAL FRAMEWORK**

### **Child Behavior**

The dimensions of child behavior are relatively binary, splitting into positive and negative/problematic behaviors. Much of the literature on child behavior focuses on problematic behaviors, concentrating mostly on two subdimensions in particular: behaviors associated with learning and developmental disabilities and those uninfluenced by said disabilities. The two literatures intersect regularly, due in part to the propensity many educators have for misreferring students with behavioral problems to special education programs and classes (Bean 2013; Darney et al. 2013; DiPrete and Jennings 2012; Freeman 2004; Gilliam 2005; Skiba et al. 2002; U.S. Department of Education 2014). Males, minority males in particular, have been disproportionately referred to special education programs (Freeman 2004; MacMillan and Reschly 1998; Skiba et al. 2002; Skiba and Williams 2014; Slocumb 2015). A host of reasons have been proposed for this, ranging from teacher gender bias against male students to developmental differences between the genders leading to misidentification (Haggerty 2009; Slocumb 2015). Misreferred students have been found to suffer from compounded disadvantage with their opportunities being further restricted in the education system, negatively influencing their academic achievement (Hibel et al. 2010; U.S. Department of Education et al. 2007).

Discourse on positive behaviors is primarily conducted through contrasting against the aforementioned negatives. Some suggest that this is in part due to teachers often-times emphasizing things students do wrong and devoting little time to praising positive behavior



(Garcia and Hoang 2015; Greenberg et al. 2014). They argue that such uneven emphasis maintains a negative behavior-oriented status quo as opposed to incentivizing positive outcomes instead (Garcia and Hoang 2015). Others argue this not to be the case, suggesting instead that praise for positive behaviors is overemphasized in the school system, that it is not an inherent net good despite societal assumptions, and it instead may be counterproductive to the learning process (Coe et al 2014; Dweck 1999; Hattie and Timperley 2007; Stipek 2010). They do not advocate for divorcing praise entirely from the system, but rather for the judicious application of it as opposed to the contended lavish current application norm (Coe et al 2014).

### **Family Involvement**

Family involvement and investment is generally regarded as one of the most crucial elements to a child's success in life, with its influence ranging from academic achievement and beyond. The level of familial involvement does not remain constant across the child's life course, with the first major dip coming in the middle school years and another more substantial decrease in the high school years (Smalls 2010). Much of this has been noted to occur due to a combination of parental insecurity regarding the changing educational structure and general sentiment that students must strive for independence (Epstein 2018; Halsey 2005; Simons-Morton and Crump 2003). Student academic performance generally suffers a decline during this period, irrespective of gender, with the decline attributed in large part to a lack of student motivation (Gillet et al. 2012; Gonida et al. 2007; Wijsman et al. 2016). Several have noted that this motivation can be positively influenced by various forms of familial involvement such as perceived mastery goals for the students or direct homework assistance (Gonida et al. 2007; Pavalache-Ilie and Țîrdia 2015).

Familial involvement is a diverse and complex construct, with its definition and effective operationalization being the center of debate for the past several decades (Epstein 1987, 1995; Epstein et al. 2002, 2018; Furger 2006; Griffin and Steen 2010; Hoover-Dempsey and Sandler 1997; Hoover-Dempsey et al. 2005; Howard and Reynolds 2008; Singh et al. 1995). Epstein's (1995:85) conceptualization of family involvement as the sum of six elements—"parenting, communicating, volunteering, learning at home, decision making, and collaborating with the community"—serves as the focal point of much of this discourse. Epstein's discourse focused on how schools could encourage family involvement through formal and informal partnerships with the school in these manners, noting that each form of involvement was likely to impact the students differently (Epstein 1995). This premise is key for researchers to effectively examine the influence of involvement as an element which is as diverse in its application as its effects, something which only a minority of the extant literature illustrates. It is additionally important to note that informal barriers are sometimes erected between educators and family members due to tensions which may arise (Billingham and Kimelberg 2013; Flynn 2007; Hornby 2011; Lasater 2016; Lawson 2003; Stillman 2012; Witte 2015). Such barriers directly interfere in school-family partnerships, reducing the occurrence and longevity of familial involvement as a result (Bang 2018; Hughes and Kwok 2007; Lawson 2003; Montgomery 2009; Hornby and Lafaele 2011).

Certainly not every form of family involvement requires formal or semi-formal educationally grounded behaviors or partnerships (Anderson and Minke 2007). Epstein's elements of family involvement are not indelibly connected to the school as an institution and can extend to activities outside of a purely academic context. Disadvantaged families, for instance, have been found to participate more "away from school grounds" (Anderson and Minke

2007:318). For these families, such involvement often takes place at home and in more informal settings as they generally opt to leave school matters to the educators (Lareau 1987, 2000). The influence of sociocultural capital investment—joint social and cultural capital investments—is particularly germane in these circumstances as it provides class bridging elements which can ameliorate said disadvantage to a degree (Allan and Duckworth 2018; Dumay and Dupriez 2008). For those without the economic capital to ease the transition into highbrow society, such investment is an integral element which enables their children to amass the requisite cultural knowledge and societal privileges (Allan and Duckworth 2018). Trends of decreasing sociocultural investment opportunities provided through the school system present concerned parents with further motivation to involve themselves and supplement for what is lacking (Beveridge 2010).

### **Child Behavior and Family Involvement**

When considering the relationship between parent involvement and child behavior, parental monitoring to reduce or prevent problematic behaviors must be a key point of focus. Extant literature suggests a negative relationship between parental monitoring—active and passive—and problematic behavior manifestation, indicating parental monitoring generally provides a protective and ameliorating effect (Finn 1989; Lahey et al. 2008; Verroneau and Dishion 2010). Finn (1989) suggests this to be a clear manifestation of Hirschi's (1969) conceptualized social control theory and, so long as the parental bond is maintained, the child would not have the liberty to engage in problematic behaviors. Researchers also suggest that monitoring may be conducted for other related purposes as well, including attempts to improve academic achievement outcomes, control disengagement from school activities, and provide oversight of peer group membership (Farrington 2005; Finn 1989; Furger 2006; Henderson and

Mapp 2002; Henderson et al. 2007; Hiatt-Michael 2001; Lewis 1993; Verroneau and Dishion 2010).

As noted previously, the relationship between parent involvement and student outcomes (behavioral and academic) is not so simple. Some research suggests there to be a negative relationship between these outcomes, where families become involved in their children's education due to children's difficulties at school—the reactive hypothesis (Catsambis 1998; Epstein 1988; Hoover-Dempsey et al. 2009; McNeal 1999, 2012; Pomerantz et al. 2007). Epstein (1988) suggests that this is indicative of high achieving students requiring less involvement from their families as compared with their low achieving counterparts. They go further to suggest that this could also be the result of one of two potential premises “teachers are reaching out to parents to obtain extra help for children who need additional learning time, or that parents are recognizing and helping out on their own” (Epstein 1988:11). Pomerantz et al. (2007) and Hoover-Dempsey et al. (2009) generally concur with this perspective, with the former going further to suggest that the reactive relationship is resulting from manipulated involvement—involvement demanded by circumstances—as opposed to natural involvement—involvement by choice. McNeal (1999) and (2012) noted much the opposite, however, and instead found low achievement and increased deviant behaviors to be matched with less—as opposed to more—parental involvement. Wehrspann (2014) suggests these divergent findings to stem from insufficient differentiation between forms of involvement. They go further to intimate that their decision to differentiate between home and social involvement in their own work was still insufficient and that involvement must be teased apart further to fully understand the relationship in question (Wehrspann 2014). To that effect, this work will reexamine this question through

three aspects of involvement: 1) family interactions with school, 2) family involvement with schoolwork, and 3) family investment in child sociocultural capital.

## **METHODS**

### **Data**

This work will employ data from 2016 wave of the Parent and Family Involvement in Education Survey from the National Household Education Surveys Program (PFI-NHES). The sampling strategy for this survey differs a bit from the waves pre-2012, due to the transition from a telephone survey to a mail survey (Noel et al. 2016). In the modern mobile phone era, this telephone survey strategy was no longer netting the intended response rate (Noel et al. 2016). Thus, the best method of surveying for the purposes of this investigation was determined to be use of mail surveys (Noel et al. 2016). The data analysis will focus on three elements of familial involvement—1) involvement with school institution, 2) direct involvement with schoolwork, and 3) involvement through sociocultural capital investment—and their interaction with differing child behaviors—child grade retention, child suspension/expulsion, and positive/negative school reported child behavior.

### **Variables**

#### **Dependent variables**

Familial involvement with the school institution (FSI) was measured as a summed additive index of eight related elements, each prefaced with the query “since the beginning of this school year, has any adult in this child's household done any of the following things at this child's school?” The enumerated index elements are 1) “attended a school or class event, such as a play, dance, sports event, or science fair”, 2) “served as a volunteer in this child's classroom or elsewhere in the school”, 3) “attended a general school meeting, for example, an open house, or a

back-to-school night”, 4) “attended a meeting of the parent-teacher organization or association”, 5) “gone to a regularly scheduled parent-teacher conference with this child's teacher”, 6) “participated in fundraising for the school”, 7) “served on a school committee”, and 8) “met with a guidance counselor in person”. A Chronbach’s alpha test was conducted to ascertain the index's goodness of fit, with a result of  $\alpha=0.7118$  indicating relative item homogeneity.

The second dependent variable, parent involvement with schoolwork (PSW) was operationalized as an additive index as well. It is comprised of two elements: “how often does any adult in your household check to see that this child's homework is done?” (0=Never, 1=Rarely, 2=Sometimes, 3, Always) and “during this school year, about how many days in an average week does anyone in your household help this child with his/her homework?” (0=Never, 1=1 to 2 days a week, 3=3 to 4 days a week, 4=5 or more days a week). A Chronbach’s alpha test was conducted to ascertain the index's goodness of fit, with a result of  $\alpha=0.7573$  indicating relative item homogeneity.

Lastly, the third dependent variable—involvement through sociocultural capital investment (ISC)—is also operationalized as an additive index. It is comprised of fifteen variables, split across two different time constraints “in the past week” and “in the past month”, all which are coded dichotomously. The variables are as follows: 1) “in the past week has anyone in your family done the following things with this child?”: a) “told him/her a story”, b) “how many days has your family eaten the evening meal together?”—recoded to reflect the question “in the past week has your family eaten the evening meal together?”—c) “done activities, like arts and crafts, coloring, painting, pasting, or using clay”, d) “played board games or did puzzles with him/her”, e) “worked on a project like building, making or fixing something”, f) “played sports, active games, or exercised together”, g) discussed with him/her how to manage time”, and

h) talked with him/her about the family's history or ethnic heritage, and 2) “in the past month, has anyone in your family done the following things with this child?”: a) “visited a library”, b) “visited a bookstore” c) “gone to a play, concert, or other live show”, d) “visited an art gallery, museum, or historical site”, e) “visited a zoo or aquarium”, f) attended an event sponsored by a community, religious, or ethnic group”, and g) “attended an athletic or sporting event outside of school in which this child was not a player”. A Chronbach’s alpha test was conducted to ascertain the index's goodness of fit, with a result of  $\alpha=0.7087$  indicating sufficient item homogeneity for the ensuing analysis.

### **Independent variables**

When considering parent involvement in education, one would be remiss if they did not consider the relationship between familial capacity for involvement and the act of involvement itself (Crosnoe et al. 2012; Green et al. 2007). To this effect, the number hours per week worked was employed to account for sheer family time available. The dataset did not provide this element to begin with, so it was created through combining the results of two continuous items in the dataset. The items in question were identically phrased, “about how many hours per week does he or she usually work for pay or income, counting all jobs?”, but were asked with respect to the first parent/guardian and second parent/guardian. Given that there were several single-parent families in the dataset—which would subsequently skew the values in favor of duo-parented families—the item was averaged to level the measure. This may not completely alleviate the issue, as leveling the measure may not indicate same time availability between single and duo-parented families. It was, however, the best way of operationalizing the concept, given the available data and existing data limitations of the survey.

As noted earlier in the work, a child's age has been shown to be related to familial involvement in the literature. Previous research has noted that this relationship is of a negative nature, that as a child grows older, parent involvement decreases (Brannon 2007; Epstein 1990; Flynn and Nolan 2008; Smalls 2010; Zill and Nord 1994). Posited reasons for this are multifaceted, but generally center on family impressions of children's wants and needs and the time the family is able to expend in general (Brannon 2007; Flynn and Nolan 2008). Extant literature on sibship size and educational outcomes finds a similar connection regarding parent resource dilution such as time dilution (Marjoribanks 1991; Downey 2001). Öberg (2017) notes that this effect is not monolithic in nature, however, and can vary by time and population of interest. As a result, sibship and child age are accounted for in the model as independent variables of interest as opposed to socioeconomic control variables. Child's age and number of siblings are measured continuously in the work.

The relationship between parent involvement and child behavior has received much attention in the literature. Lack of involvement has been linked to the promulgation and retention of deleterious behavior (Véronneau and Dishion 2010). Involvement has been similarly linked to the dissolution of deleterious behavioral practices and promotion of positive behaviors—irrespective of peer influence in these cases—including those which have netted academic sanctions such as grade repetition (Im et al. 2016; Larose and Boivin 1998; Lester et al. 2017; Véronneau and Dishion 2010). Given this, it would be reasonable to consider whether positive or negative behaviors stimulate or depress parent involvement. Huh et al. (2006) and McNeal (2012) considered this question, finding that negative behaviors depressed levels of parent involvement. Huh et al. (2006) relied on child negative behavior self-response in their study, while McNeal (2012) considered parent answers to child truancy and science achievement



queries. This work conceptualizes its measures of behavior somewhat differently, with both the negative and positive behavior indexes being housed within school outreach to the parents about the behaviors. The indexes generally mirror each other in their variable composition, with the negative behavior index comprised of two items—“since the beginning of this school year, how many times have any of this child's teachers or school staff contacted your household about” 1) “behavior problems this child is having in school” and 2) “problems this child is having with schoolwork—and the positive behavior index comprised of two items as well—“since the beginning of this school year, how many times have any of this child's teachers or school staff contacted your household about” 1) “very good behavior” and 2) “very good schoolwork”. Chronbach’s alpha tests were conducted to ascertain the indexes’ goodness of fit, with results of  $\alpha=0.6178$  and  $\alpha=0.8689$  respectively. Interpretation of Chronbach’s alpha tests for internal consistency is challenging for scales with limited items (Trevethan 2009). The lower alpha for the negative behavior index may be sufficient, given it has only two items, but readers should interpret the corresponding results with caution.

One thing often suggested to be a motivator for parent involvement is the parent’s own expectations of student academic achievement (Castro et al. 2015). Some researchers assert it is so indelibly connected to involvement that it serves as a measure of involvement all its own (Hoge et al. 1997; Jeynes 2007, 2010). This work is not prepared to make such an assertion but will consider it, as other works have, a point of inquiry and investigation (Mau 1997; Zellman and Waterman 1998). Parent expectations of their child’s future education will be considered on a discrete prestige scale ranging from 0 “complete less than a high school diploma” to 5 “earn a graduate degree or professional degree beyond a bachelor’s”.

The final key point of inquiry is whether parent satisfaction with school services—education and beyond—influences parent involvement. Extant literature on the subject suggests a complicated relationship. Several studies suggest that academic institutional practices serve as a key promoting element for parent involvement, noting that positive practices lead to more involvement (Becker and Epstein 1982; Fantuzzo et al. 2006; Hoover-Dempsey and Sandler 1997). The chief motivator for home education—arguably the most concentrated form of parent involvement—for the past couple of decades, however, is dissatisfaction with school services (Bielick et al. 2001; McQuiggan et al. 2017; Princiotta et al. 2006; Redford et al. 2017). As a result, there is a lack of clarity regarding the direction of the relationship between parent satisfaction and parent involvement. This study seeks to add some clarity to the discourse through its inclusion of parent satisfaction as an explanatory element, operationalized as an additive index. It is comprised of five elements, each prefaced by “how satisfied or dissatisfied are you with each of the following”: 1) “the school this child attends this year”, 2) “the teachers this child has had this year”, 3) “the academic standards of the school”, 4) “the order and discipline at the school”, and 5) “the way that school staff interacts with parents.” A Chronbach’s alpha test was conducted to ascertain the index’s goodness of fit, with a result of  $\alpha=0.8920$  indicating relative item homogeneity.

### **Control variables**

When considering other potentially influential factors in the relationship between child behavior and parent involvement, there are several school-oriented events which might play a role and were subsequently controlled. Grade retention, suspension, and expulsion, although not always based around child behavior, are outcomes often linked to problematic behavior—the latter two in-particular (Bean 2013; Darney et al. 2013; DiPrete and Jennings 2012; Freeman

2004; Gilliam 2005; Skiba et al. 2002; U.S. Department of Education 2014). Parent involvement has also been suggested to be linked to these activities as a potential mediator or preventative measure as well as an outcome—netted increases/decreases in parent involvement resulting from grade retention, suspension, or expulsion—in the extant literature (Allen-Glass 2013; Christle et al. 2004; Holt 2008; Im et al. 2016; Mendez 2012; Mukuria 2002; Washington 2016). Grade retention and suspension/expulsion were both structured as dummy variables for the purposes of the study. Suspension and expulsion were grouped together due to their linkage within the literature and a Chronbach's alpha test value of  $\alpha=0.9735$ . The additive scaling was somewhat theoretically problematic, as the progression would not be linear. So, the suspension/expulsion variable was reduced to a dichotomy in its final incarnation. Analyses were run with both incarnations of it, with the end result not being substantially different between the two.

The relationship between school interactions with families and familial involvement in education is well addressed in the literature from a qualitative perspective (Ames et al. 1995; Epstein 2018; Lawson 2018). Much of this extant literature proposes that regular contact between the schools and parents emboldens and prompts parents to become more involved in their children's educations, providing educators with a home-based asset and parents with a more grounded understanding of their children's respective educational standing (Ames et al. 1995; Epstein 2018; Lawson 2018). There is a lack of quantitative assessment of these propositions within the literature. This study thus incorporated its measure of school interactions with families to provide requisite quantitative assessment of this proposed relationship. School interactions with the family was operationalized as an additive index. It is comprised of eight elements, three of which were prefaced by “during this school year, has your family received any of the following”—1) “notes or emails specifically about this child from his/her teachers or school

administrators”, 2) “newsletters, memos, emails, or notices addressed to all parents”, and 3) “phone calls specifically about this child from his/her teacher or school administrators”—and the other five prefaced by “how well has this child's school been doing the following things during this school year”—1) “letting you know how this child is doing in school between report cards”, 2) “providing information about how to help this child with homework”, 3) “providing information about why this child is placed in particular groups or classes”, 4) “providing information on your expected role at this child's school”, and 5) “providing information on how to help this child plan for college or vocational school.” A Chronbach’s alpha test was conducted to ascertain the index's goodness of fit, with a result of  $\alpha=0.8093$  indicating relative item homogeneity.

Socio-demographic variables—child’s gender, parent’s race/ethnicity (one or more parents holds respective minority status), household income, highest parental educational attainment, single-parent family identifier, school-type identifier, school-choice identifier, child disability status, and domestic spoken language identifier—and academic performance measures were also included in the analyses, as control variables. This was to control for potentially influential effects of these variables. It was also possible for one or more of these variables to serve some form of an explanatory effect, and so they will be included in the model (Saperstein 2012). Child’s gender, parent’s race/ethnicity identifiers, single-parent family identifier, school-type identifier, school-choice identifier, child disability status, and the domestic spoken language identifier were all measured dichotomously with the most common response coded as the reference category. To deal with highly skewed incomes, the survey coded income by category: 0 (\$0 to \$10,000), 1 (\$10,001 to \$20,000), 2 (\$20,001 to \$30,000), 3 (\$30,001 to \$40,000), 4 (\$40,001 to \$50,000), 5 (\$50,001 to \$60,000), 6 (\$60,001 to \$75,000), 7 (\$75,001 to \$100,000),

8 (\$100,001 to \$150,000), and 9 (\$150,001 or more). Highest parental educational attainment was measured as the most years of education completed by either of the two optioned parents. Student grades were coded 0 (Mostly D's Or Lower), 1 (Mostly C's), 2 (Mostly B's), and 3 (Mostly A's).

## **Method**

As noted previously, the PFI-NHES will be a primary source of data through which I examine the influence of child behavior on familial involvement in education. Due to the complex relationship which child behavior may have with familial involvement, there will be a few key outcomes and indicators considered in this study. Examination of these outcomes and indicators will lead to the use of a somewhat lower N (n=11,913) as compared with the sum total survey response (n=14,075), since homeschooling parents (n=552) were not provided with these queries and some of the respondent's schools do not provide letter grades (n=1,610).

Given that the dependent variables of interest are count variables which suffer from overdispersion—likelihood-ratio test of  $\alpha$  was statistically significant for all models—this work employed negative binomial regression as its analytical method (Garand and Burke 2006; King 1989; Long 1997). The slight left skews of each of the three dependent variables of interest provided further justification, as the existence and direction of the skew indicated the application of other analytical methods such as ordinary least squares and Poisson modeling inappropriate respectively. Robust standard errors were utilized to control for heteroskedasticity in the data, while acquiescing that this may result in constrained standard errors (Angrist and Pischke 2009; Berry and Feldman 1985; King and Roberts 2014). Extant discourse on the problems associated with employment of survey weights informed their exclusion for the purposes of this analysis (Gelman 2007). Due to the variable utilizing items which were not of equal weight (0-3; 0-4), an

ordinary least squares (OLS) regression analysis (not shown) was performed on a standardized recreation of the variable—both items were standardized, Cronbach’s alpha test was conducted to ascertain the index's goodness of fit ( $\alpha=0.7552$ ) , and the index was reformed. The resulting analysis did not differ substantively from those attained through negative binomial regression.

## RESULTS

Table 2.1 presents descriptive statistics of the dependent, independent, and control variables. The average parent involvement with school institution index score was near center of

Table 2.1. Descriptive Statistics of Dependent and Independent Variables

	Mean	Std. Dev.	Min	Max
<b>Dependent Variables</b>				
FSI	4.310	1.935	0	8
PSW	4.026	1.993	0	7
ISC	11.015	4.099	0	21
<b>Independent Variables</b>				
Hours Worked Per Week	28.497	14.804	0	80
Age	12.661	3.510	3	20
Number of Siblings	1.028	0.955	0	7
Negative Child Behavior	1.102	3.879	0	150
Positive Child Behavior	2.251	6.029	0	198
Familial Expectations	3.949	1.218	0	5
Family School Satisfaction	12.259	3.043	0	15
<b>Control Variables</b>				
Repeated Grade	0.081	0.273	0	1
Suspended/Expelled	0.109	0.312	0	1
Grades	2.343	0.791	0	3
Female	0.487	0.500	0	1
White	0.889	0.314	0	1
Black	0.130	0.337	0	1
Latino	0.210	0.407	0	1
Other Race	0.121	0.326	0	1
Household Income	5.584	2.844	0	9
Highest Education	14.971	2.990	4	20
Single-Parent Family	0.267	0.442	0	1
Non-Public School	0.114	0.317	0	1
Disability	0.170	0.376	0	1
Non-English Speaking	0.051	0.219	0	1
School Communication	10.990	3.649	0	17
Not Family’s First Choice	0.181	0.385	0	1

the index at 4.310 (SD=1.935). Average parent involvement with schoolwork and through sociocultural capital investment were above center of their indexes with scores of 4.026 (SD=1.993) and 11.015 (SD=4.099) respectively.

The ‘typical’ parent in the sample had (a) completed some college, about 15 years of education; (b) worked part-time, averaging around 28 hours per week; (c) was white; (d) had a household income between \$50,000 and \$60,000; (e) was in some form of committed relationship; and (f) had two children. They were contacted by their children’s school very rarely about good or bad behavior. Parents on average reported having moderately high expectations for their children’s future educational attainment and felt relatively satisfied with the services provided by the school. A majority noted that their child’s current school was their first choice (public school in the majority of cases), reporting that their child earned mostly B’s across the school year. Around 17% of children were reported as having some form of physical, mental, or learning disability, 10.9% had been suspended or expelled, and 8.1% had repeated a grade at some point during their academic tenure.

### **Familial Interaction with School**

Table 2.2 provides results from the negative binomial regression model on familial interaction with the school. Results from the base model (Model 1) found a majority of the control variables to be significantly associated with familial-school interaction. The child having been suspended or expelled previously had a negative association (-0.061,  $p < 0.001$ ). Grades, as expected, had a positive relationship (0.035,  $p < 0.001$ ). Family racial minority status was found to have some association, with black (0.044,  $p < 0.001$ ) or Latino (0.027,  $p < 0.01$ ) status having positive linkages and other racial status (-0.070,  $p < 0.001$ ) having a negative association. Highest parental education attainment (0.023), child having a disability (0.062), and total household

Table 2.2. Negative Binomial Regression for Family Interactions With School

	Model 1	Model 2
Hours Worked Per Week	--	0.000 (0.000)
Age	--	-0.015*** (0.001)
Number of Siblings	--	0.012** (0.004)
Negative Child Behavior	--	0.002 (0.001)
Positive Child Behavior	--	0.004*** (0.001)
Familial Expectations	--	0.044*** (0.004)
Family School Satisfaction	--	-0.006*** (0.002)
Repeated Grade	-0.021 (0.016)	0.015 (0.015)
Suspended/Expelled	-0.061*** (0.015)	-0.037* (0.015)
Grades	0.035*** (0.006)	0.008 (0.006)
Female	0.011 (0.008)	0.009 (0.007)
Black	0.044*** (0.012)	0.022 (0.012)
Latino	0.027** (0.011)	0.002 (0.010)
Other Race	-0.070*** (0.013)	-0.081*** (0.012)
Household Income	0.015*** (0.002)	0.016*** (0.002)
Highest Education	0.023*** (0.002)	0.019*** (0.002)
Single-Parent Family	-0.017 (0.010)	-0.015 (0.011)
Non-Public School	0.146*** (0.010)	0.148*** (0.010)
Disability	0.062*** (0.010)	0.074*** (0.010)
Non-English Speaking	-0.151*** (0.023)	-0.158*** (0.022)
School Communication	0.032*** (0.001)	0.028*** (0.001)



(table cont'd).

	Model 1	Model 2
Not Family's First Choice	0.014 (0.012)	-0.011 (0.011)
Wald $\chi^2$	2,528.79	3,004.66
Log Likelihood	-24,125.19	-23,970.70

\* p-value < 0.05, \*\* p-value < 0.01, \*\*\* p-value < 0.001.

Note: Robust standard errors are reported in parentheses.

N=11,913.

income (0.015) had positive associations ( $p < 0.001$ ). Non-public school attendance (0.146) netted a positive relationship. Coming from a non-English speaking household (-0.151) was negatively associated ( $p < 0.001$ ). Rounding out the base model, school communication with parents was found to have a positive linkage with familial-school interaction (0.032,  $p < 0.001$ ).

Most of these associations remained when expanded to the full model, seeing only black or Latino status and grades lose significance once the independent variables of interest were included. As anticipated, child's age was significant, having a negative linkage (-0.015) with family school interactions ( $p < 0.001$ ). Number of siblings interestingly had a positive relationship (0.012,  $p < 0.01$ ), diverging a bit from some previous research and providing support for Öberg's (2017) assertion. Of the two behavior measures, only positive child behavior attained statistical significance and was found to have a positive association with familial-school interaction (0.004,  $p < 0.001$ ). Familial expectations had a positive (0.044,  $p < 0.001$ ) linkage. Lastly, family satisfaction with school services was found to have a negative association (-0.006) with familial-school interaction ( $p < 0.001$ ).

### **Familial Involvement with Schoolwork**

Table 2.3 provides results from the negative binomial regression model predicting familial involvement with schoolwork. Results from the base model (Model 1) found a majority of the control variables to be significantly associated with familial schoolwork assistance. Child having repeated a grade (-0.038,  $p < 0.05$ ) and having been suspended or expelled (-0.155,

Table 2.3. Negative Binomial Regression for Family Involvement With School Work.

	Model 1	Model 2
Hours Worked Per Week	--	0.001* (0.000)
Age	--	-0.069*** (0.001)
Number of Siblings	--	-0.014*** (0.004)
Negative Child Behavior	--	-0.001 (0.001)
Positive Child Behavior	--	0.001 (0.001)
Familial Expectations	--	0.027*** (0.004)
Family School Satisfaction	--	-0.005** (0.002)
Repeated Grade	-0.038* (0.017)	0.052*** (0.016)
Suspended/Expelled	-0.155*** (0.017)	-0.062*** (0.016)
Grades	-0.016* (0.007)	-0.062*** (0.006)
Female	-0.024** (0.009)	-0.016* (0.008)
Black	0.117*** (0.013)	0.085*** (0.011)
Latino	0.080*** (0.011)	0.043*** (0.010)
Other Race	-0.012 (0.014)	-0.028* (0.012)
Total Household Income	-0.019*** (0.002)	-0.010*** (0.002)
Highest Education	0.010*** (0.002)	0.005*** (0.002)
Single-Parent Family	-0.041*** (0.011)	-0.019 (0.011)
Non-Public School	-0.033* (0.014)	-0.008 (0.011)
Disability	-0.004 (0.013)	0.006 (0.011)
Non-English Speaking	-0.042 (0.022)	-0.044* (0.020)
School Communication	0.040*** (0.001)	0.019*** (0.001)

(table cont'd).

	Model 1	Model 2
Not Family's First Choice	0.077*** (0.012)	0.010 (0.011)
Wald $\chi^2$	1,283.71	5,681.96
Log Likelihood	- 25,070.539	- 23,768.616

\* p-value < 0.05, \*\* p-value < 0.01, \*\*\* p-value < 0.001.

Note: Robust standard errors are reported in parentheses.

N=11,913.

p<0.001) both had negative associations. Grades were negatively associated as well (-0.062; p<0.01). Female children were predicted to see slightly less involvement by their families (-0.016) as opposed to their male counterparts (p<0.01). Black (0.117) or Latino (0.080) parent racial/ethnic status was noted to have a positive association with schoolwork assistance (p<0.001). Total household income had a negative linkage (-0.019, p<0.001) with parent involvement with schoolwork. Higher parental education attainment was found to have a positive relationship (0.010, p<0.001). Single-parent family status (-0.041, p<0.001), non-public school attendance (-0.033, p<0.05), and coming from a non-English speaking household (-0.042, p<0.1) had negative linkages with familial school work assistance, though the latter was marginally significant—this changed in the full model. Lastly, first choice school status (0.077) and school communication with parents (0.040) netted positive associations with familial schoolwork assistance (p<0.001).

Around half of these linkages remained significant when expanded to the full model. The association of the child having repeated a grade saw its coefficient change from negative (-0.038, p<0.05) to positive (0.052, p<0.001) upon the introduction of child age to the model. Changes were also noted regarding the associations of single-parent family status, non-public school attendance, and first choice school status, with the lot becoming no longer statistically significant. In contrast, as noted previously, coming from a non-English speaking household

became statistically significant in the full model ( $p < 0.05$ ). Child age (-0.069) and number of siblings (-0.014) were found to have expectedly negative linkages ( $p < 0.001$ ). Neither negative nor positive child behavior exhibited a statistically significant relationship with schoolwork assistance. Familial expectations, however, had a positive association (0.027,  $p < 0.001$ ). Lastly, parental satisfaction with the school was found to have a negative linkage with familial schoolwork assistance (-0.005,  $p < 0.001$ ).

### **Familial Involvement Through Sociocultural Capital Investment**

Table 2.4 provides results from the negative binomial regression model predicting familial investment in sociocultural capital. Results from the base model (Model 1) found a majority of the control variables to be significantly associated with familial sociocultural capital investment. Child having repeated a grade (-0.057,  $p < 0.001$ ) and having been suspended or expelled (-0.091,  $p < 0.001$ ) both had negative associations. Grades had a positive association as well (0.038,  $p < 0.001$ ). Black (0.072,  $p < 0.001$ ) and Latino (0.089,  $p < 0.001$ ) parent status respectively were noted to have positive linkages with familial investment. Total household income had a negative association (-0.011,  $p < 0.001$ ). Higher parental education attainment (0.020) had a positive linkage ( $p < 0.001$ ). Coming from a non-English speaking household had a negative association (-0.042,  $p < 0.001$ ). Lastly, first choice school status (0.044) and school communication with parents (0.027) found positive linkages with familial capital investment ( $p < 0.001$ ).

Many of these associations remained significant when expanded to the full model. The significance of the child having repeated a grade, however, disappeared entirely. Changes were also noted regarding the linkages of grades and first choice school status, with neither achieving statistical significance in the full model. Non-public school (0.025) and disability status (0.025)

Table 2.4. Negative Binomial Regression for Familial Investment in Sociocultural Capital.

	Model 1	Model 2
Hours Worked Per Week	--	-0.000 (0.000)
Age	--	-0.028*** (0.001)
Number of Siblings	--	0.010** (0.004)
Negative Child Behavior	--	-0.002 (0.001)
Positive Child Behavior	--	0.004*** (0.001)
Familial Expectations	--	0.045*** (0.004)
Family School Satisfaction	--	-0.009*** (0.002)
Repeated Grade	-0.057*** (0.015)	-0.005 (0.015)
Suspended/Expelled	-0.091*** (0.014)	-0.045*** (0.014)
Grades	0.038*** (0.006)	0.003 (0.006)
Female	0.026*** (0.007)	0.025*** (0.007)
Black	0.072*** (0.012)	0.045*** (0.011)
Latino	0.089*** (0.009)	0.057*** (0.009)
Other Race	0.010 (0.011)	-0.003 (0.011)
Total Household Income	-0.011*** (0.002)	-0.008*** (0.002)
Highest Education	0.020*** (0.002)	0.015*** (0.002)
Single-Parent Family	-0.019 (0.009)	-0.012 (0.010)
Non-Public School	0.017 (0.011)	0.025* (0.011)
Disability	0.009 (0.010)	0.025* (0.010)
Non-English Speaking	-0.073*** (0.019)	-0.080*** (0.019)
School Communication	0.027*** (0.001)	0.021*** (0.001)

(table cont'd).

	Model 1	Model 2
Not Family's First Choice	0.044*** (0.010)	0.004 (0.009)
Wald $\chi^2$	1,188.07	2,373.06
Log Likelihood	-29,708.156	-29,229.441

\* p-value < 0.05, \*\* p-value < 0.01, \*\*\* p-value < 0.001.

Note: Robust standard errors are reported in parentheses.

N=11,913.

attained statistical significance in this model and were found to be positively linked with familial investment ( $p < 0.05$ ). Child age (-0.026,  $p < 0.001$ ) and familial satisfaction with the school (-0.009,  $p < 0.001$ ) both predicted lower familial sociocultural capital investment. Number of siblings (0.010,  $p < 0.001$ ), interestingly, predicted higher investment, as did familial expectations (0.045,  $p < 0.001$ ). Of the two behavior measures, only positive child behavior exhibited a statistically significant relationship with familial investment—as with familial interactions with the school—and was found to have a positive linkage (0.004,  $p < 0.001$ ).

## DISCUSSION AND CONCLUSION

Familial involvement is a field which has received a fair amount of attention over the decades. The influence of familial involvement on education—in both causal directions—has received particular focus. Beyond education, a key area of concern for society and families is how to address issues of adolescent deviancy. Research into this area has primarily focused on the effects of familial involvement on curbing child deviancy, while not examining whether child behavior itself has an influence on familial involvement in the first place. This work sought to investigate this question while also ensuring that familial involvement was not treated as a monolith. Regarding this effort, results from this study indicated the effects of child behavior on familial involvement are varying and at-times nonexistent when accounting for different forms of familial involvement.

The current study examined familial involvement in three different facets: family interactions with the school (family->school), family involvement with schoolwork, and family investment in social capital. In essence, the study attempted to parse the complex amalgamation of concepts which are encapsulated in the term familial involvement into 1) family involvement with the educational institution, 2) hands-on involvement in educational pursuits, and 3) less-direct involvement in educational pursuits and enhancing life chances/bolstering privilege. To that end, the study noted that although the majority of variables examined did have similar relationships with each form of involvement, there were still elements of deviation. For example, whether a child had repeated a grade only held statistical significance across the base and full models when considering familial involvement with schoolwork. It held no statistical significance when considering familial interaction with school and lost its significance in the full model exploring familial investment in sociocultural capital. Child's gender, non-white parentage, single-parent family status, and disability status accrued similar results as well. Certainly, the key variables of interest also had divergent results—depending on the form of involvement in question. Family members' average hours worked per week had a statistically significant linkage with familial involvement with schoolwork, but not with familial interactions with the school or familial investment in sociocultural capital. Positive child behavior had statistically significant associations with familial involvement with the school and sociocultural capital investment, but not on familial involvement with schoolwork. Negative child behavior did not achieve statistically significant associations across any of the models. Number of siblings had statistically significant associations with all three dependent variables but saw variation in the direction of the relationship.

The findings of this work deviated from those of Huh et al. (2006) and McNeal (2012) regarding the influence of negative behavior on parent involvement. As noted before, negative child behaviors were not found to have statistically significant linkages with any forms of involvement. Positive child behavior was found to stimulate familial interactions with the school and investment in sociocultural capital. There was no finding of significance for positive with familial involvement with schoolwork.

It would thus appear that the reactive hypothesis was refuted to a degree given the null result for negative behavior's influence on any form of involvement. This is further supported by the lack of a statistically significant relationship between both forms of behavior and schoolwork involvement. Given that the reactive hypothesis posits that parents would not become involved when their children are engaging in positive behaviors, the significant linkages between positive behavior and familial interactions with school and sociocultural investment would be antithetical. McNeal's (1999, 2012) findings suggested problematic behaviors would depress involvement, but the findings here find no support for this assertion either. The work here diverges a bit from the behavioral works which came before and examines behavior's relationships with various of forms of involvement, as opposed to focusing exclusively on direct parent interactions with the child. The findings here bolster Wehrspann's (2014) argument that differentiating between and considering the gamut of forms of involvement is essential if we are to understand its influence on student behavior and success.



# **CHAPTER 3.**

## **THE EFFECTS OF FAMILY INVOLVEMENT ON ELEMENTARY ACADEMIC OUTCOMES: 1996-2016**

### **INTRODUCTION**

The interplay between the family and the education process has received quite a bit of interest over the years from researchers (Cripps and Zyromski 2009; Grace et al. 2012; El Nokali et al. 2011; Eidahl 2013; Ferrera 2009; Gewertz 2008; Gonzalez-DeHass et al. 2005; LaRocque et al. 2011; Oyserman et al. 2007). Much of this literature points to family involvement being integral to their children's academic achievement and success (Cripps and Zyromski 2009; Ferrera 2009; Grace et al. 2012; El Nokali et al. 2011; Oyserman et al. 2007). Family involvement has been found to peak early in elementary school, declining starkly in the middle-school years and continues declining in high school (Constantino 2003; Halsey 2005; Mo and Singh 2008). A matching decline in student achievement has also been noted, providing support for a linkage between the two (Rockoff and Lockwood 2010). A variety of elements play a part in these near simultaneous declines such as family socioeconomic and minority status (Cotton and Wikelund 1989; Doucet 2011; Thurber 2013).

There have also been noted shortages of primary and secondary education teachers over the last few decades (Ingersol et al. 2017). The subsequently high demand for teachers and inability to meet it has led to school systems lowering their hiring standards for educators, which in-turn resulted in an increase in underperforming schools and teachers (Ingersol et al. 2017). Such events are undeniably connected to the stagnation of the U.S.'s position in the international education market. With the results of the American education system at a near-standstill, national demand for a way to break out of this educational rut only increases. This paper's inspiration stems from this concern, examining family involvement effects early in the education process

(5<sup>th</sup> grade and below). The bulk of existing research opts to undergo a year-by-year analysis of involvement as opposed to examining whether such involvement has held constant over time. This work conducts such an examination, looking at the past two decades (1996-2016) and whether the impact of familial involvement—family interactions with school, family investment in child sociocultural capital, and family storytelling—on student performance has remained in spite of the vast cultural shifts—as well as what that indicates.

## **CONCEPTUAL FRAMEWORK**

### **Family Economics and Time Investment**

The premium society puts on child care is a relatively recent phenomenon (Fass 2016; Hiatt-Michael 1994). For a good portion of U.S. history, families considered children to be assets to be actively utilized through labor to support the home (Fass 2016). It wasn't until the mid-twentieth century that nurture-oriented style of parenting really began to take hold in U.S. society, whereby the expectations of families intensified steadily from there forward (Fass 2016). The intensive parenting style saw its birth during this period, leading parents to begin planning and subsequently controlling a host of aspects in their children's lives—in essence, cultivating them as one would a crop (Lareau 2011). Although this form of parenting was one popularized and implemented primarily within the middle class, other classes have shown similar predilections in terms of what they consider good parenting (Bennett et al. 2012; Chin and Phillips 2004; Edin and Nelson 2013; Hays 1996; Waller 2010). Parents across the board have since been investing increasing amounts of time into their children in order to abide by this burgeoning normative style of parenting, lest they be dubbed a bad or lacking parent. This in turn led to general demands on families with children increasing steadily over the last several decades (Bianchi et al. 2006; Lino et al. 2017).

Much of the expected burden would traditionally be expected to fall on the shoulders of the mothers, as has the bulk of domestic labor since time immemorial (Coltrane and Shih 2009; Crittenden 2001; Gershuny and Robinson 1988). Recent research suggests, however, that the increasing pressures on men to contribute toward household labor and premium put on fatherhood have led fathers to strive toward more of an equitable distribution of childcare responsibilities (Coltrane 1997; Esping-Andersen and Bilari 2015; Ishizuka 2019; Waller 2010). Fathers who invest time with their children have also been noted to experience active emotional, psychological, and physical health gains, thus incentivizing the behavior further (Musick et al. 2016). Mothers and fathers are increasingly jointly expected to actively contribute to the upbringing of their children, particularly considering the increasingly competitive college admissions market and normalization of credentialism in society (Bianchi et al. 2006; Collins 2019; Ishizuka 2019; Ramey and Ramey 2010). With this in mind, it can be reasoned that parent involvement would see some form of consistent growth over time.

### **School Interactions**

As noted in many studies in the field, family involvement is seen to have a clear impact on student academic success (Cripps and Zyromski 2009; Epstein 1995; Ferrera 2009; Gonzalez-DeHaas et al. 2005; El Nokali et al. 2011; Grace et al. 2012; Hiatt-Michael 2001; Hong and Ho 2005; Oyserman et al. 2007). Family-school interaction is one such form of involvement, requiring family members to take time outside of their schedule to attend events at the school such as parent-teacher conferences, parent teacher association (PTA) meetings, sporting events, bake sales, and the like. This involvement indicates to the student that their family is invested in their educational success, providing the student with additional motivation to succeed and with the educational experience at the same time (Berkowitz and Bier 2005; Cordry and Wilson 2005;

Gonzalez-DeHaas et al. 2005; Shannon and Bylsma 2007). The presence of their family also serves as a mediating element for deleterious individual and group activities at school such as substance use or delinquency (Im et al. 2016; Larose and Boivin 1998). A growing body within the literature have coined such involvement as “family-school partnerships” in order to reflect the concept of all parties holding equal standing and value in the education process (Price-Mitchell 2009).

In practice, family-school partnerships have had varying success due to poor messaging/education for educators/administrators regarding the role in question as well as the resulting friction between the parties which threatens to dismantle the relationship entirely (Anderson and Minke 2007; Bakker et al. 2007; Hornby and Lafaele 2011; Lareau and Muñoz 2012; Murphy 2016; Price-Mitchell 2009; Smit et al. 2008). Some of these issues result from educators/administrators reflecting upon their respective certifications and thereby assuming the role of expert in contrast to the family being seen as an entity merely benefiting from the service they provide. This in turn generates an informal hierarchical structure which causes the family to develop a sense of inferiority and become discouraged in maintaining said partnership as a result—potentially even leading to tensions between educators/administrators and families (Anderson and Minke 2007; Bang 2018; Bakker et al. 2007; Lawson 2003; Hornby 2011; Hornby and Lafaele 2011; Lareau and Muñoz 2012; Montgomery 2009; Price-Mitchell 2009). Some educators/administrators have gone so far as to restrict and ban forms of involvement which they felt would put too much power in the hands of the families (Harper 2016; Murphy 2016; Woyshner 2003). Christianakis (2011) explains others focus on families exclusively as “help labor”—before/after school learning assistance—and may in-turn unintentionally leave certain avenues of involvement closed. They echo the sentiments of others in the field with their

assertion that teachers today need training in order to better understand and communicate with the families and communities they are working with, thereby achieving the goal of equal partnership. This work strives to build off of this assertion and emphasize the importance of such a partnership through its empirical examination of the influence it has on its student/child beneficiaries.

### **Sociocultural Capital Transmission**

Bourdieu generally conceptualizes cultural capital as the knowledge, skills, education, and other status elements which provide an individual more or less status in society (Bourdieu 1986). He distinguishes it from social capital by explaining that the latter is indelibly tied to one's social obligations and thus the aggregation of resources stemming from one's group membership, network connections, and individual relationships (Bourdieu 1986). When considering child academic success, the influence of sociocultural capital investment —i.e. cultural and social capital operating in near tandem—must be considered (Dumay and Dupriez 2008). To this end, the investment can be quantified as the sum of family-school relations and family-child interactions (Jones and Velez 1997). It is through such familial investment that children gain additional knowledge of the extant culture and access the added privileges associated with easier integration into highbrow society (Allan and Duckworth 2018). This is done through acquiring objectified and embodied cultural capital via set forms of familial involvement provided through event attendance and media consumption (Lee and Lam 2016; Tan 2015).

A host of literature exists examining cultural consumption be it on the consumer end or factors which influence arts participation in general (Katz-Gerro and Jæger 2015; Patterson 2018; Yuksek et al. 2019). Certainly one major point of influence regarding arts consumption is

the education of the consumer, with recent research finding it could potentially exert a larger effect on consumption as opposed with the traditionally accepted social class and status (Reeves 2015). Traditional forms of arts participation have been on a steady decline for several years now, with increasing numbers of consumers employing electronic media instead (Rakbin and Hedberg 2011). Such consumption has been noted to be occurring less within schools themselves, stemming from issues regarding funding and scheduling (Beveridge 2010). It thus stands to reason that families may take matters into their own hands to ensure their children receive the requisite sociocultural capital needed to advance in modern society.

### **Storytelling**

When considering familial involvement in and contribution to children's intellectual development, one cannot help but consider the setting in which a parent reads or tells their child a story (Merga and Ledger 2018; Saracho and Spodek 2010). Families that read aloud with their children find it benefits their child's language proficiency, cognitive development, and acquisition of sociocultural capital (Duursma et al. 2008; Farrant and Zubrick 2012; Kalb and van Ours 2014; Merga 2017; Mol and Bus 2011; Short 1995). Many families quit reading with their children once they can read on their own, believing it is of little import to their academic achievement and development at that point, despite evidence to the contrary (Baker et al. 1997; Hodges 2011; Kohart 2012; Merga 2017; Merga and Ledger 2018). Students who maintain read aloud and similar activities past this point, however, express high levels of satisfaction with the process. They also report increased comprehension and confidence (Albright and Ariail 2005; Kohart 2012; Lesesne 2006; Scholastic 2016, 2017; Trelease 2006; Wightman 2011).

The process of reading aloud is a derivation from the age-old tradition of storytelling, departing from the latter in the creative elements at the teller's disposal (Chesin 1966; Henry

1993; Lawrence and Paige 2016). Like reading aloud, storytelling has been found to net comprehension benefits for individuals across the age spectrum (Gallets 2005; Henry 1993; Podlozny 2000; Lawrence and Paige 2016). Some researchers have found there to be no significant difference between reading aloud and storytelling when it comes to skill development (Henry 1993). Yet other research indicates that storytelling nets better development outcomes—e.g. information retention—as opposed to reading aloud (Gallets 2005). Although read aloud is certainly the more commonly examined measure of the two when it comes to educational impact, the extant research suggests it not to be inferior. Dataset limitations removed the possibility of contrasting both measures for the purposes of this study, but does allow for the examination of one measure—storytelling—across all waves. Thus, this study strives to contribute further understanding of the impact of storytelling on a student’s academic performance.

## **METHODS**

### **Data**

This paper will employ data from The National Household Education Surveys Program’s Parent and Family Involvement in Education Survey (PFI-NHES). This survey was selected due to its steady collection of family involvement items across all years of the study, making it one of the only surveys of its kind to do so. The PFI-NHES was conducted in 1996, 2003, 2007, 2012, and 2016 with an additional survey being conducted in 1999 including selected items from the Before and After-School Programs and Activities survey (ASPA-NHES) and PFI-NHES. The sampling strategy for the survey changed between 2007 and 2012, causing the five-year gap in between surveys, from a telephone survey to a mail survey (Noel et al. 2016). This was done to account for the societal move away from landline phones to mobile phones (Noel et al. 2016). The sampling strategy circa 1996-2007 was ideal for researchers at the time due to the ease of

contact through random digit dialing methods for landline telephones (Noel et al. 2016). In the mobile phone era, this strategy was no longer netting the intended response rate (Noel et al. 2016). Thus, the best method of surveying for the purposes of this investigation was determined to be use of mail surveys (Noel et al. 2016). Given that this study will utilize items shared in common across the 1996-2007 and 2012-2016 surveys, the understanding that both methods were the best available to NHES researchers at the time period serves as the catalyst for comparing data across these time periods.

## **Sample**

This paper will be examining a sub-sample of the PFI-NHES data, focusing on students in primary education (K-5). These grades were selected primarily due to their relative importance to student development, as students will still be going through their formative years of education during this period—as well as extant data restrictions.

## **Measures**

### ***Dependent Variable***

Student grades were coded 0 (Mostly D's Or Lower), 1 (Mostly C's), 2 (Mostly B's), and 3 (Mostly A's). This variable was coded differently across the years of the survey, with certain years facilitating a larger scale through their inclusion of separate D and F categories. Additional categories such as “Child's School Doesn't Give These Grades” were also available for some years but were screened out for the purposes of the analysis. The scale for all years was harmonized in order to facilitate this work's examination—D's and F's in the 1996 and 1999 datasets were recoded into the joint 0 category.



### ***Independent Variables***

Familial involvement with the school institution (FSI) was measured as a summed additive index of two related elements, each prefaced with the query “since the beginning of this school year, has any adult in this child's household done any of the following things at this child's school?”. The enumerated index elements are 1) “attended a school or class event, such as a play, dance, sports event, or science fair” and 2) “gone to a regularly scheduled parent-teacher conference with this child's teacher”. Unfortunately, these are the only elements of this type held in common across all waves of the survey and thus the index was limited just to these two points of inquiry. A Chronbach's alpha test was conducted to ascertain the index's goodness of fit, with varying results across the waves— $\alpha(1996)=0.4616$ ,  $\alpha(1999)=0.6164$ ,  $\alpha(2003)=0.3636$ ,  $\alpha(2007)=0.3745$ ,  $\alpha(2012)=0.4178$ , and  $\alpha(2016)=0.4540$ . Interpretation of Chronbach's alpha tests for internal consistency is challenging for scales with limited items (Trevethan 2009). The lower alphas for the familial involvement with the school institution indexes may be sufficient, given they had only two items, but readers should interpret the corresponding results with caution.

The second independent variable of interest, familial investment in sociocultural capital (ISC), was also operationalized as an additive index. It is comprised of three variables prefaced with the query “in the past month, has anyone in your family done the following things with this child?”: 1) “gone to a play, concert, or other live show”, 2) “visited an art gallery, museum, or historical site”, and 3) “visited a zoo or aquarium”. Similar to the previous variable, these were the only such elements held in common across all waves of the survey which led to the index being constrained. Chronbach's alpha tests were conducted, with results of  $\alpha(1996)=0.5109$ ,  $\alpha(1999)=0.5420$ ,  $\alpha(2003)=0.3567$ ,  $\alpha(2007)=0.3464$ ,  $\alpha(2012)=0.4394$ , and  $\alpha(2016)=0.4329$ .

respectively. Interpretation of Chronbach's alpha tests for internal consistency is challenging for scales with limited items (Trevethan 2009). As the ISC index has only three items, lower alphas would be expected and may be acceptable, but readers should interpret the corresponding results with caution.

The final independent variable of interest—family telling child a story—was dichotomous. The query was stated across several waves as “in the past week, has anyone in your family done the following things with (CHILD)...told (him/her) a story”. A variation on the question premiered in the 2012 wave, continuing onward, asked “in the past week, has anyone in your family done the following things with this child...told him/her a story (Do not include reading to this child)”. However, the preceding waves did ask separate questions about parent read aloud activities. This mostly alleviated the researcher's reservations regarding potential overlap or inflated response out of respondent confusion regarding the difference between the two activities. Given the lack of specificity in the question text, there is still a risk that it did occur but the inclusion of those separate items lowers the likelihood that any form of egregious inflation took place.

### ***Control Variables***

There are a host of different factors which may influence a student's academic performance across their life course, particularly when examining familial involvement. Grade retention is a long debated and storied response to students who are struggling academically (Andrew 2014; Hughes et al. 2018; Kretschmann et al. 2019; Tavassolie and Winsler 2019). The extant literature indicates a complicated relationship between the two, with the effects of one on the other varying wildly depending on the group in question. Some of the literature suggests retention to be a net positive for students in so far as it serves a motivational role, while other

literature suggests the exact opposite relationship (Andrew 2014; Diris 2017; Kretschmann et al. 2019). Many of the asserted positive effects were found not to hold up in the long term, however, holding with Andrew's (2014) and Diris's (2017) assessment that grade retention may be detrimental to a child's educational outcomes (Greene and Winters 2006; Roderick and Engel 2001; Roderick et al. 2005; Tingle et al. 2012; Winters and Greene 2012). The detrimental impacts were noted to be particularly strong for students of marginalized status such as minorities and those in poverty (Greene and Winters 2006; Roderick and Engel 2001; Roderick et al. 2005; Winters and Greene 2012). Given this, it stands to reason that the potential influence of grade retention as well as minority group membership and income should be actively controlled for when examining academic performance. Grade retention and child race/ethnicity identifiers (black, Latino, and other race) were structured as dummy variables for the purposes of the study. To deal with highly skewed incomes, the surveys coded income by category. For the purposes of this analysis, the income variable for each year was harmonized and coded 0 (\$15,000 and Lower A Year), 1 (\$15,001 - \$30,000 A Year), 2 (\$30,001 - \$50,000 A Year), 3 (\$50,001 - \$75,000 A Year), and 4 (\$75,001 or More A Year).

Similar to grade retention, in/out-of-school suspension and expulsion—henceforth referred to as school exclusion—also serve as forms of active academic sanctions which schools ideally employ only when necessitated (Valdebenito et al. 2018). Both have been noted to exert clear negative effects on student's academic performance (Ahn and Simpson 2013; Cholewa et al. 2018; Rausch and Skiba 2005). Some of the literature have noted that such sanctions disproportionately impact males and minority students, specifically black males, due to claimed behavioral concerns (Musu-Gillette 2016). Male students able to avoid expulsion over behavioral concerns are often referred to special education classes and programs (Bean 2013; Darney et al.

2013; Freeman 2004; Hibel et al. 2010). This practice has resulted in disproportionate referrals of males to special education as opposed to females (Hibel et al. 2010). As a result, dummies of school exclusion and gender were controlled for the purposes of this analysis.

Sibship and child age have been connected to familial involvement in the extant literature, with research indicating that increases in either lead to decreases in familial involvement. The reasons differ, with increases in sibship having been found to lead to familial resources/time dilution and increases in age leading to decreased involvement as families strive to meet their perceptions of child wants/demands (Brannon 2007; Downey 2001; Flynn and Nolan 2008; Marjoribanks 1991). Both variables are measured continuously in this work.

Other sociodemographic variables—single-parent family identifier, domestic spoken language identifier, school-choice identifier, and child disability status identifier—were also included in the analyses as control variables. This was to control for potential omitted-variable bias, as well as the possibility that they could provide some form of an explanatory effect (Saperstein 2012). These variables were measured dichotomously, with the most common response coded as the reference category. Year of survey was also controlled for in this work to eliminate possible period effects.

### **Analytic Strategy**

This study employs a variant of ordered probit analysis, allowing the researcher to directly interpret the resulting models' coefficients without requiring odds ratio transformation and subsequent interpretation. This study also engages in comparative discourse about the changes in familial involvement and any associated measures across time points. As noted in the literatures, it is hard to meaningfully discuss differences across time periods without executing some form of statistical evaluation. Due to the cross-sectional nature of the PFI-NHES surveys,

longitudinal analyses cannot be performed. Furthermore, engaging in such cross-group comparisons runs into some potential issues of concern (Allison 1999; Paternoster et al. 1998).

Paternoster et al. (1998:862) argue that the issue lies in the potential bias within the standard

error estimation of the difference calculation  $Z = \frac{b_1 - b_2}{\sqrt{\frac{V_1(SEb_1^2) + V_2(SEb_2^2)}{V_1 + V_2}}}$  wherein  $V_1$  and  $V_2$  are the

degrees of freedom and  $SEb_1^2$  and  $SEb_2^2$  are the respective coefficient variances of the groups in question. Referencing the work of Clogg et al. (1995) and Brame et al. (1998), Paternoster et al.

contend that  $Z = \frac{b_1 - b_2}{\sqrt{SEb_1^2 + SEb_2^2}}$  results in an unbiased estimation. Allison (1999:186), however,

suggests that doing so in probit or logit regression analysis, as opposed to linear regression, may result in unaccounted residual variation or unobserved heterogeneity. Allison (1999:194-198) proposes using a modified version of Statistical Analysis System (SAS)'s nonlinear least squares model estimation (NLIN) to account for extant sampling error and overidentification. Williams (2009:546) argues that use of this method relies too heavily on the two assumptions inherent to the method—"the coefficients are the same in both groups" and "at least one coefficient is the same in both populations"—and thus might result in erroneous findings. Ordinal generalized linear modeling (OGLM) was used to avoid these issues, as it is able to better account for potential unobserved heterogeneity in the data (Williams 2010). Robust standard errors were also utilized to control for detected heteroskedasticity in the data, while conceding that said standard errors could become restrained as a result—though the sample size utilized here makes this improbable (Angrist and Pischke 2009; Berry and Feldman 1985; King and Roberts 2014). Lastly, Gelman's (2007) discourse on the problems surrounding the use of survey weights informed the author's decision to exclude them for the purpose of this analysis.

## RESULTS

Table 3.1 presents the descriptive statistics by wave. Grades were fairly consistent across the six waves, averaging 2.427 with a low of 2.364 in 1996 and a high of 2.503 in 1997.

Family involvement saw general increases over time. School interactions started at 1.605 in 1996 and climbed up to 1.767 in 2016. Family sociocultural capital investment started at 0.72 in 1996 and climbed to 0.981 in 2016. Reported familial storytelling started at 0.619 in 1996, peaked at 0.713 in 2003, and finished out at 0.7 in 2016. School exclusion was particularly interesting, with three years reporting no suspensions or expulsions for K-5 students. Reported exclusion for the other years remained relatively low with the proportion never greatly exceeding 5% of the students reflected in the survey. Average total household income saw relatively consistent gains from a starting point of 1.215 in 1996 to a peak of 1.929 in 2016. The proportion of single-parent family respondents saw some fluctuation over the years, beginning at 0.258 in 1996 and climbing to 0.287 in 1999 before falling 0.05 over the next two waves to 0.243 in 2003 and then to a low of 0.198 in 2007. The most notable change was a sharp increase of 0.109 from 2007 to 2012, with it finishing out at 0.256 in 2016. Number of siblings saw a steady decline from 2003 to 2016, generally mirroring the trend toward smaller family sizes over the last decade (Fry 2019; Stone 2018).

Table 3.2 presents the results of the analysis of family involvement measures on student academic performance, while controlling for year. 1996 served as the reference category due to it being the first wave of the study. Model 1 regressed student grades on family involvement measures, controlling for year. Results show family interactions with school, investment in sociocultural capital, and familial storytelling were all positively associated with grades

Table 3.1. Descriptive Statistics By Wave.

	1996		1999		2003		2007		2012		2016		1996-2016	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Grades	2.364	0.745	2.376	0.764	2.388	0.761	2.503	0.706	2.483	0.690	2.478	0.711	2.427	0.739
FSI	1.605	0.603	1.572	0.618	1.669	0.563	1.726	0.512	1.694	0.564	1.767	0.488	1.664	0.570
ISC	0.720	0.837	0.735	0.857	0.772	0.869	0.771	0.854	0.854	0.922	0.981	0.961	0.804	0.890
Told Child A Story	0.619	0.486	0.656	0.475	0.713	0.452	0.694	0.461	0.673	0.469	0.700	0.458	0.671	0.470
Repeated Grade	0.092	0.288	0.079	0.270	0.092	0.289	0.081	0.272	0.078	0.268	0.067	0.250	0.081	0.273
School Exclusion	0	0	0	0	0.051	0.220	0	0	0.057	0.232	0.053	0.224	0.027	0.163
Female	0.489	0.500	0.495	0.500	0.493	0.500	0.475	0.499	0.485	0.500	0.484	0.500	0.488	0.500
White	0.627	0.484	0.562	0.496	0.538	0.499	0.559	0.497	0.502	0.500	0.523	0.500	0.552	0.497
Black	0.167	0.373	0.178	0.382	0.152	0.360	0.121	0.326	0.133	0.339	0.111	0.314	0.146	0.353
Latino	0.150	0.357	0.209	0.407	0.254	0.435	0.233	0.423	0.249	0.433	0.235	0.424	0.219	0.414
Other Race	0.056	0.230	0.051	0.219	0.055	0.229	0.088	0.283	0.116	0.320	0.131	0.337	0.082	0.275
Household Income	1.215	0.943	1.319	1.004	1.533	1.075	1.828	1.068	1.729	1.147	1.929	1.833	1.563	1.091
Age	8.869	1.463	8.601	1.575	8.595	1.609	8.550	1.647	8.381	1.935	8.393	1.833	8.568	1.699
Single-Parent Family	0.258	0.437	0.287	0.453	0.243	0.429	0.198	0.399	0.307	0.461	0.256	0.436	0.265	0.442
Non-English Speaking	0.049	0.217	0.071	0.256	0.101	0.301	0.087	0.282	0.060	0.238	0.060	0.237	0.069	0.253
Number of Siblings	1.346	1.089	1.357	1.037	1.388	0.991	1.242	1.002	1.065	0.980	1.044	0.982	1.237	1.027
Non-Public School	0.138	0.345	0.145	0.352	0.143	0.350	0.139	0.346	0.111	0.314	0.114	0.318	0.131	0.337
Disability	0.230	0.421	0.181	0.385	0.237	0.426	0.210	0.407	0.161	0.367	0.164	0.370	0.194	0.396
N	4,566		4,731		3,345		2,471		5,017		3,698		23,828	

Table 3.2. OGLM Probit Regression for Grades (1996-2016)

	Model 1	Model 2	Model 3
FSI	0.184*** (0.013)	--	0.065*** (0.014)
ISC	0.080*** (0.009)	--	0.069*** (0.009)
Told Child A Story	0.105*** (0.016)	--	0.053*** (0.017)
Year			
1999	-0.026 (0.024)	-0.026 (0.024)	-0.025 (0.024)
2003	0.019 (0.026)	-0.029 (0.027)	0.019 (0.027)
2007	0.201*** (0.030)	0.124*** (0.031)	0.116*** (0.031)
2012	0.159*** (0.023)	0.089*** (0.025)	0.079** (0.025)
2016	0.129*** (0.026)	0.035 (0.027)	0.012 (0.027)
Repeated Grade	--	-0.487*** (0.027)	-0.484*** (0.027)
School Exclusion	--	-0.381*** (0.044)	-0.366*** (0.044)
Female	--	0.223*** (0.016)	0.216*** (0.016)
Black	--	-0.341*** (0.023)	-0.345*** (0.023)
Latino	--	-0.250*** (0.022)	-0.253*** (0.022)
Other Race	--	0.006 (0.031)	0.003 (0.031)
Household Income	--	0.153*** (0.008)	0.142*** (0.009)
Age	--	-0.087*** (0.005)	-0.084*** (0.005)
Single-Parent Family	--	-0.095*** (0.019)	-0.098*** (0.019)
Non-English Speaking	--	-0.107*** (0.033)	-0.090** (0.033)
Number of Siblings	--	-0.029*** (0.008)	-0.026*** (0.008)
Non-Public School	--	0.182*** (0.024)	0.166*** (0.024)



(table cont'd.)

	Model 1	Model 2	Model 3
Disability	--	-0.494*** (0.020)	-0.467*** (0.020)
Wald $\chi^2$	547.17	3,826.89	3,915.80
Log Pseudolikelihood	-23,210.205	-21,561.601	-21,503.815

\* p-value < 0.05, \*\* p-value < 0.01, \*\*\* p-value < 0.001.

Note: Standard errors are robust and reported in parentheses.

N=23,828.

( $p < 0.001$ ) during this period. Year was positively associated with student grades ( $p < 0.001$ ) for all years except 1999 and 2003 ( $p > 0.1$ ).

Model 2 regressed student grades on sociodemographic and other control variables, controlling for year. Grade retention (-0.487) and school exclusion (-0.381) were both found to be negatively associated with grades ( $p < 0.001$ ). Black (-0.341) and Latino (-0.250) status associations with performance were similarly negative. Female student status netted a positive linkage (0.223) with grades ( $p < 0.001$ ). Similar to the result in Model 1, year was positively associated with student grades in 2007 and 2012 ( $p < 0.001$ ) but lost the significant association in 2016 in this model.

Model 3 regressed grades on family involvement measures, while controlling for year and student/family characteristics. Results indicated that family interactions with school, investment in sociocultural capital, and familial storytelling to student all saw relative decreases in their coefficients, with FSI seeing the largest drop from 0.184 to 0.065. There were no substantive changes in coefficient or direction for the sociodemographic and other control variables from Model 2 to Model 3.

## DISCUSSION AND CONCLUSION

Familial involvement has been examined for over forty years, with the bulk of the literature finding it beneficial for student academic performance. The reception for such involvement over the years has been mixed among those working in the school system, with a

commonly articulated concern being that it disrupts the school power structure. Some of this concern likely stems from a lack of focus within teacher education on family-school partnerships (Lasater 2016; Thompson et al. 2018). Such conflicts often go unaddressed and unresolved, which only serves to impede students in their educational pursuits, which in-turn has wide-reaching consequences (Auerbach 2012; Lasater 2016; Gary and Witherspoon 2011).

Results from this study further bolster this assertion, finding that family-school interactions have a positive association with general student academic performance outcomes. This finding presents further evidence as to why egregious restrictions on family involvement are utterly counterproductive. Within the same vein, Christianakis's (2011) concern regarding the marginalization of families in schools as help labor sees further support here as well. Pursuing a policy of sidelining families in their children's academic pursuits disadvantages the students in question. Educational institutions would be wise to bear this in mind.

Familial involvement is certainly not solely tied to the family-school partnership dynamic, as families often take it upon themselves to invest in their child's intellectual and sociocultural development. The increasing dearth of consumption opportunities within the school system seems to have further amplified this, as noted by the steady rise in sociocultural capital investment detected in this study. Some caution against this and suggest that doing so limits children to the experiences and selections of their families (Beveridge 2010). They argue that disadvantaged families will suffer even more and that the only manner in which to ameliorate this is through the school system (Beveridge 2010).

Results from this study assuage this to a degree, finding that familial sociocultural capital investment is positively associated with student academic performance as opposed to the suggested deleterious effect. Certainly, concerns raised by those like Beveridge (2010) are not

without merit. Other studies have found that families with more means hold greater advantages in this forum, with some suggesting that said advantage is on the decline as societies continue to modernize (Alderson et al. 2007; Gerhards et al. 2013). Yet other studies argue to the contrary, suggesting that what is being observed is a form of group membership affirmation as opposed to conscious enhancement of one's status (Chan and Goldthorpe 2007). Findings here present evidence toward the latter understanding, with familial sociocultural capital investment netting a positive association with student grades—with total household income and other socioeconomic factors being controlled. Discouraging families from engaging in replacement or supplementary forms of sociocultural capital investment would only serve to disservice the students, regardless of their social status.

Many families assume that once a child has passed a certain age—such as being able to read on their own—that continuing to engage in storytelling and the like is a bit regressive and nonessential to their continued development. Despite this belief, existing research has shown the import of these activities with students finding gains in their language proficiency, cognitive development, and information retention. Results from this study are in line with these findings, noting that familial storytelling had a positive linkage with student grades when controlling for socioeconomic status and areas of potential disadvantage. While first recognizing the demands on the modern family, it is incumbent on the researcher to stress the importance of activities which enhance a child's creative and critical thinking capabilities. Although families today often prioritize different forms of extracurricular activities with the eyes toward their children's future college applications, they would be wise not to discount the import of establishing and reinforcing a strong academic foundation.

Although not the immediate focus of this study, a final finding of note is the positive association of being female with grades. A modest, but growing literature has developed over the last two decades addressing the ever-growing gender gaps in academic performance and attainment (Farrell and Gray 2019; Sax 2016; Sommers 2001; Whitmire 2010). Much of the extant literature notes the gap begins in late middle and early high school. This study, however, focused on children who are between kindergarten and fifth grade, and discovered that the gap already emerged—as also noted with 3<sup>rd</sup> grade English language arts scores in Barton and Cohen (2019). It should also be reiterated that this study examined data from 1996 through 2016, suggesting this phenomenon has endured over the years. This study, given its data confines, is unable to further explore this phenomenon, but future research should continue to examine gender differences over a more expansive stretch of grades.

The state of the family and education system are ever evolving, as are workforce expectations and demands on those entering the workforce in an increasingly global economy. The United States' steadily dropping position in terms of academic performance and attainment, as compared with our nations, is not a particularly new phenomenon (Desilver 2017; Lim et al. 2018). Compounding on this is the steady decline in male academic performance and attainment, the reason for which has yet to be definitively determined. The decision by schools to limit family involvement and/or reduce cultural consumption opportunities at school does not help matters either. The results of this work advance the case for family involvement in education processes as well as restate the need for an in-depth examination into male educational decline. Family involvement has long been found to be a beneficial factor toward enhancing student educational development. Although many families employ a somewhat heuristic approach in selecting forms of involvement, findings from this work suggest that engaging in regular

storytelling is particularly beneficial—even when considering with other forms of involvement. Storytelling is not merely about advancing a fantasy narrative with your child, ostensibly engaging in mental make-believe. It serves as an activity which enhances their comprehension ability and information retention; both of which are essential foundational skills for any field of study. If the United States is to climb back up in the global education market, it will need to do so on firmer foundations than has been done the past several decades. If something's broken, it needs to be fixed—sometimes from the ground on up.

## **CHAPTER 4.**

### **HOMESCHOOL FAMILY INVESTMENT IN CHILDREN'S EDUCATION**

#### **INTRODUCTION**

Homeschooling has grown exponentially over the last several decades, with its growth seeing its true beginnings during the evangelical exodus from the public schools to home education in the 1980s and 1990s (Gaither 2009, 2017; Knowles et al. 1992; Lawrence 2012; Ray 2013). There has been much debate within society regarding the merits and pitfalls of homeschooling for children and whether engaging in home education is even a healthy decision for the families themselves (Gray and Riley 2013; Knox et al. 2014; Kunzman 2009, 2010, 2012; Lois 2006, 2009, 2010, 2012; Morrison 2014; Murphy 2012; Rosin 2007; Ross 2010; West 2009; Wyatt 2008; Yuracko 2008). Within this discourse, researchers examining homeschooler academic outcomes have found that homeschoolers tend to have more positive outcomes than their peers—even when entering the collegiate sphere (Drenovsky and Cohen 2012; Gaither 2017; Murphy 2012; Ray 2004, 2013; Romanowski 2006). This is of particular interest during this modern period in the U.S. in which education outcomes have stagnated, leaving many concerned about the state of education in this country.

The combination of these two phenomena brings forth a relatively simple question: why do homeschoolers excel over their compatriots? One would be hard-pressed to suggest that families who homeschool are not among the most involved when it comes to their children's education—as compared with families who chose other educational routes. Homeschooling by definition tends to require more family involvement given them taking on roles as educators—roles which would otherwise be filled by professional educators in the public and private school systems. These roles can be rather taxing on the family, since they undertake not only the role of educator but the associated societal stigma and emotional burden associated with their 'deviant'

educational choice (Lois 2006, 2009, 2010, 2012; Wyatt 2008). Compounding on this is the social pressure to ensure the child is sufficiently socialized and interacts with individuals outside the home through organized activities and the like (Farris and Woodruff 2000; Wyatt 2008). In response to these concerns, many homeschooling families actively strive to ensure their child has a comparable sociocultural foundation to that of their non-homeschooled peers (Lois 2012; Romanowski 2006; Wyatt 2008). Accomplishing such parity is complicated by decreasing investments within the public-school system resulting from administrative deficiencies (Beveridge 2010). Cohen (2020b) postulated that impacted families might choose to supplement said investments in response to the increasing deficit. This study will assess this claim, examining whether school selection influences contemporary familial sociocultural investment. It will also address the extent to which homeschooling families compare to their non-homeschooling counterparts with respect to these investments as well as whether these families differ from one another in terms of these investments.

## **CONCEPTUAL FRAMEWORK**

### **School Selection**

Family choice in attended school selection has been a hotly contested issue over the past decade (Carey 2012; Maranto and Shakeel 2018; McCallum et al. 2019). The bulk of the extant literature has focused on assessing the effectiveness of various school choice policies in terms of their effectiveness with academic performance and outcomes, concerns regarding integration, and fiscal outcomes (Abdulkadiroglu et al. 2019; Abdulkadiroglu et al. 2015; Barseghyan et al. 2017; Egalite and Wolf 2016; McCallum et al. 2019; Ritter et al. 2014; Welsh et al. 2017). Catt and Rhinesmith (2017) note that familial satisfaction is handled as an afterthought in much of the existing research. They argue that although satisfaction should not be the primary determinant in

the success of choice initiatives, it should be included as a part of the conversation (Catt and Rhinesmith 2017:9). To that effect, existing examinations into this relationship have found that choice exercises a noticeable positive effect on satisfaction (DeAngelis 2017).

The importance of familial satisfaction can be found in its association with student educational outcomes (Hampden-Thompson and Galindo 2017; Kisida and Wolf 2015). This is in-line with Bronfenbrenner's (1979) ecological systems theory which suggests that youth develop as a product of their various networks and environments interacting with one another. Children who develop well are in-turn able to have more positive outcomes as a result. Many families, even those most altruistic, have a concerted interest in their children's development such that their children will be able to care for them in their old age (Becker et al. 2014). In so doing, families strive to maximize their children's intragenerational mobility—thereby increasing the family's intergenerational mobility as a result (Becker and Tomes 1979).

Families actively invest economic, social, cultural, and temporal capital into their children as they work to meet this goal (Becker and Tomes 1979; Parcel et al. 2010; Wang 2013). Many choose to invest their temporal capital into active involvement in an attempt to personally ensure the betterment of their child's station (Parcel et al. 2010; Wang 2013). This is particularly the case for economically disadvantaged families who are often forced to send their children to failing schools in areas without some measure of school choice (Archbald 2004; Parcel et al. 2010). Research into the effect of family involvement on student academic outcomes has overwhelmingly found involvement exerts a positive effect on performance, attainment, and achievement (Cohen 2020b; Cripps and Zyromski 2009; El Nokali et al. 2011; Ferrera 2009; Grace et al. 2012; Oyserman et al. 2007).



Extant research has found linkages between pairings of school selection, family satisfaction, family involvement, and academic success. If we are to consider what researchers have gleaned thus far about the manners in which these concepts interact with one another, the relationship between the four could be constructed as what is illustrated in Figure 4.1.

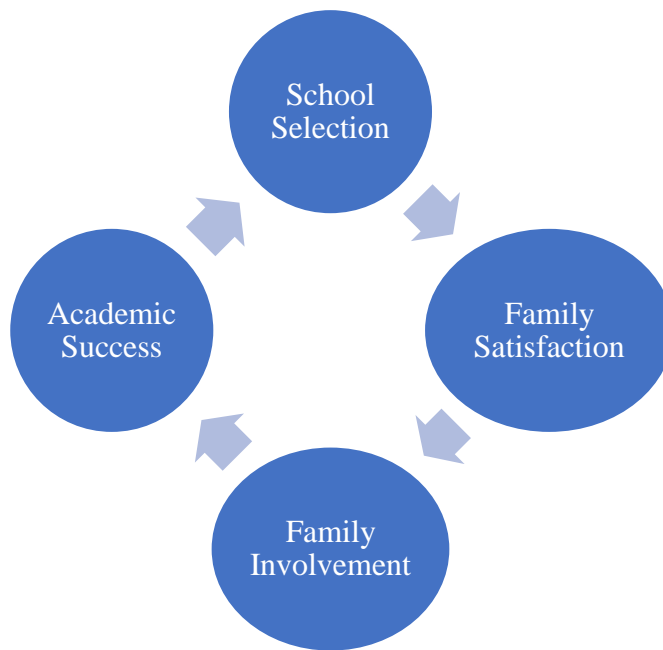


Figure 4.1. School Selection and Involvement Path Diagram

School selection has been found to influence familial satisfaction, which in turn influences involvement, involvement impacts success, and success serves as a determinant for attended school selection. Of the various iterative pairings of the four, one has gone relatively unexplored in the literature: school selection $\leftrightarrow$ family involvement. This work seeks to investigate this relationship and emphasize the differences in familial sociocultural investment across various school types.

## Homeschooling

Homeschooling finds its contemporary roots as a counterculture movement stemming from the libertarian left and the critiques of mainstream education made by the likes of John Caldwell Holt and Ivan Illich (Wilhelm and Firmin 2009). Holt (1964, 1967) and Illich (1971) both argued that the existing education system was broken, and an alternate was needed. Around the same time period, the U.S. Supreme Court heard the case of *Wisconsin vs. Yoder* (1972) and saw the steady removal of religion from the mass education system (Reich 2002; Vieux 2014). The decision in *Yoder*—shrouding homeschooling choice with the First Amendment—provided disgruntled conservative religious fundamentalists such an alternative, resulting in the 1980s-1990s exodus of evangelicals from the public-school system (Gaither 2009, 2017; Knowles et al. 1992). From this point forward, homeschoolers were addressed and described near synonymously with conservative Christian fundamentalists due to the majority they held at the time (Rosin 2007; *The Economist* 2004; Yuracko 2008).

The question of community homogeneity has been an ongoing discourse within the homeschooling literature, with the bulk of the discourse focusing on their composition and rationale for homeschooling (Drenovsky and Cohen 2012; Gaither 2017; Lois 2009, 2012; Kunzman 2009, 2010; Rao 2010; Ray 2013; Rosin 2007). An analysis of the 2012 and 2016 waves of the Parent and Family Involvement Survey from the National Household Education Surveys Program (PFI-NHES) found religious motivations not to rank in the top three most important motivations for homeschooling families, a stark departure from years prior (Bielick 2008; Cui et al. 2019; Noel et al. 2013). Concern about school safety and environment ranked at the top, followed by other reasons not listed, and dissatisfaction with academic instruction at other schools (Cui et al. 2019).

Lois (2012) suggests the various reasons for homeschooling stem from two primary categories: 1) first-choice homeschoolers—those who homeschool their children from the very beginning of their education—and 2) second-choice homeschoolers—those who attempt to use the public/private schools first and homeschool their children when said schools do not meet the family’s expectations/child’s needs. The author explains that first-choice families homeschooled due to an experience of some variety which brought them immediately to the decision to homeschool their children (Lois 2012:48-50). On the other hand, second-choice families were less set on the decision to homeschool and tended to feel some form of inner turmoil over their decision despite noting home education as being in their child’s best interests (Lois 2012:63).

The drastic difference between the two classifications poses unique queries. Even though families who homeschool are among the most involved when it comes to their children’s education—as compared with families who chose other educational routes—are they monolithic in their involvement? Or do they differ similarly in their involvement like Lois noted with their choice of homeschooling? This study seeks to investigate this further and explore whether the first/second choice paradigm influences how these families invest in their children’s education.

### **Homeschooling, Investment, and Choice**

Research on homeschooling families indicates they put a premium on their child’s education, both inside and outside the classroom environment (Gathercole 2007; Medlin 2013; Murphy 2014). Critics of homeschooling posit, however, that children are unable to get an adequate education on social values whilst divorced from the mainstream socialization processes afforded through the mass education systems (Lebeda 2007; Medlin 2000, 2013; Romanowski 2010; Seo 2009). This contention has been tested over the years through theoretical and empirical discourse. Bronfenbrenner (1990) suggested that contrary to common expectation,

significant human contact for children does not find its best numerical results when they are grouped with like-aged individuals. Homeschooling advocates such as Farris and Woodruff (2000) argue that children will receive just as effective social contact through socialization with individuals outside their age-group such as parents, family members, and other adults. To that point, research has consistently shown that homeschooled children are among the most well-adjusted individuals in terms of mental health, social graces, positive self-concept, and adjustment to the collegiate experience (Aasen 2012; Colfax and Colfax 1988; Drenovsky and Cohen 2012; Duggan 2010; Gathercole 2007; Guterman and Neuman 2016a&b, 2017; Kunzman 2009; Medlin 2000, 2006, 2013; Montgomery 1989; Ray 2004; Sabol 2018; Smedley 1992).

It is for these reasons that homeschooling families are likely to provide additional time investment for activities outside the school realm. With the number of socialization outlets reduced, it becomes incumbent on the family to provide an alternative source. Given that the family is providing the learning environment—time, place, and content—they can integrate cultural elements into the curriculum through outings and imprint such values onto their children via Vygotsky's (1978) conceptualized playful learning. Through joint activity participation with their family, the child can learn behaviors and cultural values which will assist them throughout their education and into adulthood (Sabol 2018; Vygotsky 1978).

This is not to suggest, however, that first and second choice homeschooling families will have identical priorities or levels of activity. As Lois (2012) notes, first and second choice homeschooling families have differing levels of enthusiasm and argued commitment to their selected educational process—with some second-choice families expressing uncertainty about their decision. Research into the relationship between enthusiasm, commitment, and effort has noted that individuals who are suffering from uncertainty have a concerted desire for this

uncertainty to be reduced or their need for closure (NFC) to be sated (Kruglanski 2004; Roets et al. 2015; Sankaran et al. 2017).

Several have noted the more important a goal is to an individual and the more demanding the work is to reach said goal, the greater the level of expended effort (Atkinson and Birch 1970; Kruglanski et al. 2012; Sankaran et al. 2017). Many of the same researchers have also found, however, that if there is no difference in the effectiveness of high and low effort solutions for low priority goals and tasks, an individual's NFC would lead them to select the lowest effort solution to solve the problem—i.e. Kruglanski and Webster's (1996) conceptualized "cognitive miser" (Kruglanski et al. 2012; Sankaran et al. 2017). If this is the case, then there may be a difference between first and second choice homeschoolers in the number of activities they invest their time into. Second choice families, having lower commitment to the process, could then be less likely to invest their time in a multitude of activities in contrast to the time investments made by first choice families.

## **METHODS**

### **Data**

This work will utilize data from the 2012 and 2016 waves of the PFI-NHES survey. This is due to the fact that the 2012 and 2016 waves of the study have items pertaining to homeschooling that were not measured in years prior. The 2012 and 2016 waves also conducted entirely separate surveys of homeschoolers in an attempt to glean more information about the community, as they had been somewhat understudied to date. That being said, certain measures that had been applied to homeschoolers in years prior were not utilized in the 2012 and 2016 surveys. This study's examination of those who homeschooled their children will also include individuals who are partially homeschooled or "flexischooled" as a part of the population of interest (Schafer and Khan 2016).

## Variables

### *Dependent Variable*

Family investment in sociocultural capital was measured as a summed additive index of fourteen related elements split across two different time constraints “in the past week” and “in the past month”; all of which are coded dichotomously. The queries are as follows: 1) “in the past week has anyone in your family done the following things with this child?”: a) “how many days has your family eaten the evening meal together?”—recoded to reflect the question “in the past week has your family eaten the evening meal together?”—b) “done activities, like arts and crafts, coloring, painting, pasting, or using clay”, c) “played board games or did puzzles with him/her”, d) “worked on a project like building, making or fixing something”, e) “played sports, active games, or exercised together”, f) discussed with him/her how to manage time”, g) talked with him/her about the family's history or ethnic heritage, and 2) “in the past month, has anyone in your family done the following things with this child?”: a) “visited a library”, b) “visited a bookstore” c) “gone to a play, concert, or other live show”, d) “visited an art gallery, museum, or historical site”, e) “visited a zoo or aquarium”, f) attended an event sponsored by a community, religious, or ethnic group”, and g) “attended an athletic or sporting event outside of school in which this child was not a player”. A Chronbach’s alpha test was conducted to examine the index’s goodness of fit, with results of  $\alpha(2012)=0.6787$  and  $\alpha(2016)=0.6845$  indicating relative item homogeneity respectively. A McDonald’s (1999) omega test was conducted to correct for any potential underestimation bias in the  $\alpha$  calculation. The results were roughly equivalent to those calculated through the Chronbach’s test, indicating the index’s goodness of fit to have sufficient item homogeneity for the ensuing analysis.

### ***Independent Variables***

Attended school type was operationalized nominally, coded 0 (public school), 1 (private Catholic school), 2 (private religious non-Catholic school; PRNC), 3 (non-religious private school; NRPS), and 4 (homeschool). This variable was coded the same across both years of the survey in question. Public school was coded “0” in order to serve as the reference category for four dummy variables for the subsequent analyses. It should be noted that, as noted earlier in the work, homeschoolers are likely among the most involved families when it comes to their children’s education. Sociocultural investments made within the school are not measured in this data and so it is impossible to account for them. Additionally, homeschoolers often engage in the use of libraries and other facilities as ways in which to replicate normative school institutions; thus, potentially inflating their involvement. As a result, it is possible that a tautological association exists between this variable and the dependent variable of interest. When the relationship between the independent variable and dependent variable was probed, homeschoolers were noted to have a higher mean sociocultural index score than other forms of schooling ( $\bar{x} \sim 7.933$ ,  $s \sim 2.910$ )—followed by private Catholic school ( $\bar{x} \sim 7.451$ ,  $s \sim 2.807$ ), private religious non-Catholic school ( $\bar{x} \sim 7.367$ ,  $s \sim 2.664$ ), non-religious private school ( $\bar{x} \sim 7.341$ ,  $s \sim 2.921$ ), and public school ( $\bar{x} \sim 6.741$ ,  $s \sim 2.822$ ). Future research into parent involvement should consider collecting information on within-school sociocultural investments made by normatively-educating families.

First-choice homeschooler was operationalized dichotomously. The PFI-NHES’s first choice school inquiry was only posed to those who attended more normative forms of school, skipping the homeschool population entirely. As a result, this variable was derived through calculating the difference between the student’s current grade and the number of grades they

were homeschooled for—thereby coding all those who were consistently homeschooled from kindergarten on forward as “1” and all others “0”. In generating the current grade part of the equation, the set of variables for the homeschooling-focused survey prefaced on the question “what grade or year would this child be in if he/she was attending school” were utilized as well as the query posed to the generalized survey “this child’s grade is shown above...please confirm this child’s grade by marking the grade or year of school this child is attending.” The difference in phrasing between the two questions affords the possibility for over or under-identification of first-choice homeschoolers. Future research into homeschooling families should consider collecting information as to whether they elected to homeschool from the beginning or came to it later, as the research from Lois indicates the community to not be monolithic in this regard.

### ***Control Variables***

Parent homeschool educator was controlled for in the homeschooling-focused analysis, given the study’s focus on familial investment, and operationalized dichotomously.

Unfortunately, data limitations made it impossible to accurately form a variable encompassing familial involvement—the variable in question’s “another person” category was sufficiently vague to prevent the formulation of such a variable—even at the nuclear-family level. Lois’s research on homeschooling mothers lends itself to suggest that many homeschooling mothers would invest more in their children, given their status as primary educators and caregivers. So, an operationalization focusing on mother educators was considered. An analysis was conducted to examine this possibility, but no significant difference was found between mothers and fathers with respect to their sociocultural investment. Thus, the variable was restricted to parent educator (1) and non-parent educator (0).



When considering sociocultural investment, accounting for the influence of temporal capital (Wang 2013) is particularly important when considering homeschoolers. Homeschool educators, in contrast with families engaging in more normative education choices, tend to have more temporal capital at their disposal due to the uniqueness of the educational environment (Lois 2009). As a result, they have greater ability to engage in forms of concerted cultivation in order to promote the student's success (Griffith and Smith 2005). Hours spent in homeschool education per week was controlled for and evaluated in its original continuous formulation as a result.

Socio-demographic variables—child's gender, child race/ethnicity, household income, child age, highest parental educational attainment, single-parent family identifier, child physical disability status, child non-physical disability status, and domestic spoken language identifier—were included in all analyses, as control variables. This was to control for potentially influential effects of these variables (Saperstein 2012). Child's gender, family race/ethnicity identifiers, single-parent family identifier, child disability status, and the domestic spoken language identifier were all measured dichotomously with the most common response coded as the reference category. To deal with highly skewed incomes, the surveys coded income by category: 0 (\$0 to \$10,000), 1 (\$10,001 to \$20,000), 2 (\$20,001 to \$30,000), 3 (\$30,001 to \$40,000), 4 (\$40,001 to \$50,000), 5 (\$50,001 to \$60,000), 6 (\$60,001 to \$75,000), 7 (\$75,001 to \$100,000), 8 (\$100,001 to \$150,000), and 9 (\$150,001 or more). Highest parental educational attainment was measured as the most years of education completed by either of the queried parents.

## **Analytic Strategy**

Given the study's investigation of a count dependent variable, count-specific analyses were determined to be the most appropriate methods of testing respectively (Garand and Burke 2006; King 1989; Long 1997; Payne et al. 2018).

### **School-selection analysis**

The mean and variance were found to have a potential issue of overdispersion in the unrestricted sample (Pearson chi-squared~1.058). Negative binomial analysis was then conducted. Robust standard errors were employed to control for potential heteroskedasticity in the data (Angrist and Pischke 2009; Berry and Feldman 1985; King and Roberts 2014).

### **First/Second-choice homeschooler analysis**

The mean and variance of the variable were found to be relatively equally dispersed in the restricted sample (Pearson chi squared~0.977), as opposed to the common issue of overdispersion which would necessitate the use of a negative binomial regression analysis. Poisson regression was thus utilized, and robust standard errors were employed here as well (Angrist and Pischke 2009; Berry and Feldman 1985; King and Roberts 2014). Due to the variable being approximately normally-distributed, an ordinary least squares (OLS) regression analysis (not shown) was also performed. The resulting analysis did not differ substantively from those attained through Poisson regression.

## **RESULTS**

Table 4.1 presents descriptive statistics of school type by wave. Public school attendance held a strong majority in both years, with homeschooling holding the smallest share in 2012 and non-religious private school holding it in 2016. The larger homeschooling share in 2016 and its share of the pooled sample was reflective of the homeschooling oversample conducted in both 2012 and 2016.

Table 4.1. Descriptive Statistics of School Type By Wave

	2012		2016		2012-2016	
	F	%	F	%	F	%
Public School	15,433	87.87	11,991	85.19	27,424	86.68
Private Catholic School	801	4.56	677	4.81	1,478	4.67
Private Religious Non-Catholic School	518	2.95	460	3.27	978	3.09
Non-religious Private School	414	2.36	395	2.81	809	2.56
Homeschool	397	2.26	552	3.92	949	3.00
N	17,563		14,075		31,638	

Table 4.2 presents descriptive statistics of the dependent and control variables for the unrestricted sample by wave. Familial investment in sociocultural capital was relatively constant from 2012 to 2016. Total household income (1.795 to 2.019) and highest educational attainment (14.547 to 14.999) saw modest upticks across both years. Most of the other sociodemographic controls remained relatively constant, with single-parent family having the largest change in dropping 0.04 from 2012 to 2016.

Table 4.3 presents the results of the negative binomial regression analysis of attended school-type on familial investment in sociocultural capital, while controlling for year and other variables. This analysis was split across three models in order the modal school selection against all others and vice versa, as well as extrapolate out how homeschool selection contrasted against the other forms in question.

Model 1 regressed familial investment in sociocultural capital on sociodemographic and other control variables, controlling for year. Female student status and respective race and ethnicity associations were all positive and significant ( $p < 0.001$ ). The effects of total household

Table 4.2. Descriptive Statistics of Dependent and Control Variables for Respondents By Wave

	2012		2016		2012-2016	
	Mean	SD	Mean	SD	Mean	SD
Dependent Variable						
ISC	6.816	2.821	6.881	2.853	6.845	2.835
Control Variables						
Female	0.481	0.500	0.487	0.500	0.484	0.500
White	0.552	0.497	0.567	0.496	0.559	0.497
Black	0.118	0.322	0.098	0.298	0.109	0.312
Latino	0.219	0.413	0.210	0.407	0.215	0.411
Other Race	0.112	0.315	0.125	0.330	0.117	0.322
Household Income	1.795	1.134	2.019	1.092	1.894	1.121
Age	11.987	3.854	12.070	3.795	12.024	3.828
Highest Education	14.547	3.098	14.999	3.009	14.748	3.067
Single-Parent Family	0.306	0.461	0.259	0.438	0.285	0.451
Non-English-Speaking	0.052	0.222	0.052	0.222	0.052	0.222
Number of Siblings	1.014	0.972	1.041	0.977	1.026	0.975
Physical Disability	0.090	0.287	0.096	0.295	0.093	0.290
Non-Physical Disability	0.193	0.395	0.203	0.402	0.197	0.398
N	17,563		14,075		31,638	

income and single-parent status were not found to have statistically significant associations, but highest educational attainment (0.020) was found to be positive linked with familial investment ( $p < 0.01$ ). Non-English-speaking household status had a negative association (-0.045) with

Table 4.3. Negative Binomial Regression for Familial Investment in Sociocultural Capital

	Model 1	Model 2	Model 3	Model 4
<b>School Type</b>				
Public School	--	-0.090*** (0.006)	--	-0.181*** (0.012)
Catholic School	--	--	0.082*** (0.010)	-0.099*** (0.015)
PRNC	--	--	0.054*** (0.011)	-0.127*** (0.016)
NRPS	--	--	0.037** (0.013)	-0.145*** (0.017)
Homeschool	--	--	0.181*** (0.012)	--
<b>Control Variables</b>				
Year	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
Female	0.039*** (0.004)	0.038*** (0.004)	0.038*** (0.004)	0.038*** (0.004)
Black	0.084*** (0.008)	0.086*** (0.008)	0.088*** (0.008)	0.088*** (0.008)
Latino	0.081*** (0.006)	0.083*** (0.006)	0.084*** (0.006)	0.084*** (0.006)
Other	0.026*** (0.007)	0.028*** (0.007)	0.029*** (0.007)	0.029*** (0.007)
Household Income	-0.003 (0.003)	-0.005 (0.002)	-0.003 (0.003)	-0.003 (0.003)
Age	-0.031*** (0.001)	-0.031*** (0.001)	-0.031*** (0.001)	-0.031*** (0.001)
Highest Education	0.020*** (0.001)	0.018*** (0.001)	0.019*** (0.001)	0.019*** (0.001)
Single-Parent Family	-0.006 (0.006)	-0.005 (0.006)	-0.004 (0.006)	-0.004 (0.006)
Non-English-Speaking	-0.045*** (0.011)	-0.046*** (0.011)	-0.044*** (0.011)	-0.044*** (0.011)
Number of Siblings	0.016*** (0.002)	0.015*** (0.002)	0.013*** (0.002)	0.013*** (0.002)
Physical Disability	0.020** (0.008)	0.022** (0.008)	0.022** (0.008)	0.022** (0.008)
Non-Physical Disability	-0.018** (0.006)	-0.018** (0.006)	-0.019*** (0.006)	-0.019*** (0.006)
Wald $\chi^2$	4,055.10	4,361.94	4,472.00	4,472.00
Log Pseudolikelihood	-76,119.812	-76,019.504	-75,978.276	-75,978.276
* p-value < 0.05, ** p-value < 0.01, *** p-value < 0.001. Note: Standard errors are robust and reported in parentheses. N=31,638.				

familial investment ( $p < 0.001$ ). Number of siblings (0.016) and child physical disability status (0.020) netted positive associations with familial investment ( $p < 0.001$ ), while non-physical disability status (-0.018) had a negative linkage ( $p < 0.001$ ). These results remained relatively consistent across all four models.

Models 2-4 regressed familial investment in sociocultural capital on different measures of school type attendance, controlling for year. Results from Model 2 show attendance of public school to be negative associated (-0.090) with familial investment ( $p < 0.001$ ). Results from Model 3—which contrasted other school types against public school—indicated all to have positive and statistically significant outcomes ( $p < 0.001$ ). Homeschooling stood out in particular in this model, having over twice the coefficient size of any other school type (0.181), as compared against public school. Model 4 presents results from a follow-up analysis which contrasted all school types against homeschooling. Public, private-Catholic, private religious non-Catholic, and non-religious private school all netted depressed outcomes as contrasted with homeschooling ( $p < 0.001$ ).

### **First/Second-Choice Homeschooler Analysis**

Table 4.4 presents descriptive statistics of the restricted sample by wave among homeschoolers only. Familial sociocultural investment declined slightly from 7.995 to 7.889 in 2016. The proportion of first-choice homeschoolers also saw a decline from 0.365 to 0.306. Average hours of homeschool instruction per week dropped from 23.262 in 2012 to 21.987 in 2016. The sample share of minority respondents saw general gains from 2012 to 2016 with the black respondent share growing from 0.053 to 0.063, Latino respondents growing from 0.101 to 0.252, and other non- white racial identification respondents growing from 0.078 to 0.091. Total household income (1.788 to 1.687) and highest educational attainment (14.894 to 14.319)

Table 4.4. Descriptive Statistics for Homeschoolers By Wave

	2012		2016		2012-2016	
	Mean	SD	Mean	SD	Mean	SD
Dependent Variable						
ISC	7.995	2.940	7.889	2.890	7.934	2.910
Independent Variable						
First Choice	0.365	0.482	0.306	0.461	0.331	0.471
Control Variables						
Parent Educator	0.844	0.363	0.848	0.360	0.846	0.361
Homeschooling Hours	23.262	10.344	21.987	10.875	22.521	10.669
Female	0.509	0.501	0.516	0.500	0.513	0.500
White	0.768	0.422	0.594	0.491	0.667	0.472
Black	0.053	0.224	0.063	0.244	0.059	0.236
Latino	0.101	0.301	0.252	0.434	0.189	0.391
Other	0.078	0.269	0.091	0.287	0.085	0.280
Household Income	1.788	1.054	1.687	1.113	1.729	1.090
Age	12.746	3.837	12.513	3.936	12.610	3.895
Highest Education	14.894	2.713	14.319	3.375	14.560	3.127
Single-Parent Family	0.174	0.379	0.223	0.417	0.202	0.402
Non-English-Speaking	0.018	0.132	0.063	0.244	0.044	0.206
Number of Siblings	1.270	1.189	1.632	1.426	1.481	1.343
Physical Disability	0.083	0.276	0.111	0.314	0.099	0.299

(table cont'd).

	2012		2016		2012-2016	
	Mean	SD	Mean	SD	Mean	SD
Non-Physical Disability	0.232	0.422	0.275	0.447	0.257	0.437
N	397		552		949	

declined slightly during this period. Single-parent family share grew from 0.174 in 2012 to 0.223 in 2016. Non-English-speaking household share grew from 0.018 to 0.063. Reported number of siblings grew from an average of 1.27 in 2012 to 1.632 in 2016. Children with a reported disability grew across both years with physical disability share growing from 0.083 to 0.111 and those with some other form of reported disability growing from 0.232 to 0.275.

Table 4.5 presents the results of the Poisson regression analysis of first-choice homeschooler status on familial investment in sociocultural capital, while controlling for year and other variables. Model 1 regressed familial investment in sociocultural capital on sociodemographic and other control variables, controlling for year. Parent educator status was found to be positively associated (0.080) with familial investment ( $p < 0.05$ ). Hours spent homeschooling per week was found to have a positive linkage (0.005;  $p < 0.001$ ). Female student status and race and ethnicity were found to have no significant association with familial investment—a stark departure from the findings in the previous analysis. Total household income, single-parent family status, non-English-speaking household status, and both disability status indicators were also found to have no significant association with familial investment. Child age was found to have a negative association (-0.027) with familial investment ( $p < 0.001$ ). Highest educational attainment (0.013) and number of siblings (0.019) were found to be positively associated with familial investment ( $p < 0.01$ ;  $p < 0.05$ ).

Model 2 regressed familial sociocultural capital on first-choice investment in



homeschooler status, controlling for year. Results show first-choice homeschooler status was positively associated (0.146) with familial investment ( $p < 0.001$ ).

Table 4.5. Poisson Regression for Homeschooler Familial Investment in Sociocultural Capital

	Model 1	Model 2	Model 3
<b>Independent Variable</b>			
First Choice	--	0.146*** (0.023)	0.029 (0.024)
<b>Control Variables</b>			
Year	-0.003 (0.006)	-0.001 (0.006)	-0.003 (0.006)
Parent Educator	0.080* (0.039)	--	0.078* (0.039)
Homeschooling Hours	0.005*** (0.001)	--	0.005*** (0.001)
Female	0.003 (0.023)	--	0.002 (0.023)
Black	0.060 (0.051)	--	0.063 (0.051)
Latino	-0.009 (0.035)	--	-0.007 (0.035)
Other	0.054 (0.038)	--	0.055 (0.038)
Household Income	-0.003 (0.012)	--	-0.003 (0.012)
Age	-0.027*** (0.003)	--	-0.026*** (0.003)
Highest Education	0.013** (0.005)	--	0.013** (0.005)
Single-Parent Family	-0.016 (0.036)	--	-0.015 (0.036)
Non-English-Speaking	0.001 (0.062)	--	0.004 (0.062)
Number of Siblings	0.019* (0.007)	--	0.017* (0.008)
Physical Disability	0.023 (0.034)	--	0.022 (0.034)
Non-Physical Disability	-0.018 (0.030)	--	-0.016 (0.030)
Wald $\chi^2$	162.82	41.58	168.04
Log Pseudolikelihood	-2,305.084	-2,367.361	-2,304.503
* p-value < 0.05, ** p-value < 0.01, *** p-value < 0.001. Note: Standard errors are robust and reported in parentheses. N=949.			

Model 3 regressed familial investment in sociocultural capital on first-choice homeschooler status, while controlling for year and student/family characteristics. First-choice homeschooler status was no longer significant in the full model. Results from further models (not shown) found child age served as a mediator in the relationship between the independent variable of interest and the dependent variable. Subsequent modeling that excluded child age found the association between first-choice status and familial investment to be comparable to that found in Model 2. There were no substantive changes in coefficient size nor direction for any of the control variables in the full and unshown models.

## **DISCUSSION AND CONCLUSION**

The impact of parent involvement and investment has been probed steadily over the last several decades. The bulk of the literature has focused on mainstream educational choices and the litany of socioeconomic factors which influence involvement. Within the minority of the work addressing non-normative educational choices such as homeschooling, research has largely focused on student outcomes and family rationales for opting to homeschool. This work worked to add to both the more focused and broader literatures through contrasting the different schooling selections families make while also exploring whether homeschooling families engage in higher levels of direct parent-provided sociocultural investments.

As noted earlier in the analysis, homeschooling came out favorably when contrasted against other schooling types in terms of investment. It should be noted, however, that the current study cannot definitively demonstrate that homeschooling influences familial sociocultural investment, because the analysis cannot rule out the possibility that selection effects explain the associations observed. Future research using temporally ordered measures in panel data can examine associations over time.

Highest parental educational attainment was found to be positively related with familial sociocultural investment across both analyses, non-white racial statuses was positively related in the unrestricted analysis, and household income was not found to be significant in either analysis. These results at first glance would seem to contradict some of the extant literature on involvement, as families who are comparably more disadvantaged socioeconomically are more likely to engage in these forms of informal involvement (Anderson and Minke 2007; Lareau 2000; Watkins 1997). A competing school of thought, reflecting on the modern trend of concerted cultivation, would suggest instead that families with more financial capability would have more temporal capital at their disposal and thus be able to invest more sociocultural capital in their children (Griffith and Smith 2005). It is also possible that a parent may send their child to a traditional school which gives greater overall sociocultural investments than they could directly provide themselves. This potential for greater investment, however, is indirect and is not measured in the outcome of this study. Future research can better disentangle these potential measurement limitations.

Upon conducting an exploratory analysis (not shown) of the relationship between school selection and select socioeconomic indicators such as income and education, homeschooling families were found to be more disadvantaged and at parity respectively as compared to families who elected for public school education; all forms of private schooling came out ahead of public school in terms of said socioeconomic status indicators—as indicated in the literature (Murnane et al. 2018). As noted earlier in the analysis, homeschooling came out favorably when contrasted against other schooling types in terms of investment. In addition, education (a class indicator) was found to be positively related with sociocultural investment, but household income was found to have no relationship and other indicators of disadvantage were found to be positively

related with it. As a result, there is mixed support for both the theorized inverse relationship and the theorized positive relationship between socioeconomic disadvantage and sociocultural investment. Future research should probe this relationship further to tease out further patterns of involvement and areas of potential deviation from extant theoretical understandings.

Results from the investigation into the difference between first and second-choice homeschoolers indicated first-choice homeschoolers were likely to provide more sociocultural capital investment than second-choice homeschoolers, until the child's age was accounted. This suggests that the distinction between the two that Lois (2012) presented is meaningful for familial investment, but that homeschoolers are also not immune to the decrease in parental involvement and investment as the child ages that has been observed in families who select more normative education routes (Smalls 2010). The relationship between age and familial educational choice is complex and necessitates further exploration in future research.

One element which was found to mitigate this issue, to a degree, was the primary homeschooling educator being the child's parent. Parent as educator status was positively associated with familial investment. This is particularly relevant since an examination of non-parent primary educators (not shown) found that supermajority of them fell into the second-choice homeschooler classification. Parents have a greater motivation by default to invest in their children as opposed to non-parents, if for no other reason than to ensure some semblance of a retirement or care plan for themselves (Becker 2014).

Lastly, despite not being a focal point of the study, it is important to note the positive association of female status with familial sociocultural investment. This is worthy of mention due to the growing gender gap in education, which has been found to begin as early as elementary school (Barton and Cohen 2019; Cohen 2020b). The gap disappeared when the examination is

narrowed to homeschooling families, suggesting this phenomenon has yet to permeate into the culture of home education. Future research should continue to investigate gender differences as they pertain to family involvement and investment across school options.

## **CHAPTER 5. CONCLUSION**

This dissertation provides important contributions to the ever-increasing literature on parent involvement and related literatures on education and behavior. Chapter 2 found no support for the reactive hypothesis and noted that behavior's linkage with involvement varied by form of familial involvement. Chapter 3 indicates involvement to be beneficial for academic performance across all measured forms of involvement. Chapter 4 suggests that school selection and commitment to the selection may influence familial sociocultural investment. All chapters noted effects of gender and race/ethnicity, but Chapter 4's findings indicated these effects did not remain in its focused examination of homeschooling families. These findings expand the discourse on and understanding of the interplay between familial involvement, education, and human behavior.

The three substantive chapters collectively present new information on the dimensions of familial involvement. Chapters 2-4 all reveal family involvement to be a deeply complex concept which interacts in unique ways with the various aspects of the education system. Chapter 2 found that child behavior alone interacted with familial involvement in two ways—stimulating involvement and null effect—depending on the form of behavior and involvement in question. These findings expand upon the existing debate in the literature on the validity and reliability of the reactive hypothesis by indicating that the relationship is, as Wehrspann (2014) suggests, very intricate in nature. Chapter 4 intimates something similar, finding that involvement may also vary by NFC and suggests there to be some support for the cognitive miser hypothesis of involvement. While Chapter 3 does not find the same level of variation in the influence of differing involvement permutations, its results suggest that forms of involvement such as

storytelling—which are often overlooked after a certain age—are beneficial for student performance and should not be so easily overlooked and discarded.

The various strengths of this study provide the foundation for its significant contributions to the parent and family involvement literature and the field of sociology. Its utilization of the PFI-NHES survey, a well-respected and frequently examined survey of U.S. parent and family involvement in education, has yielded insights generalizable to the country's diverse population. Use of this dataset also allows for comparisons against prior studies that examined data from current and previous iterations of the PFI-NHES as several items have remained relatively consistent over its multiple waves. This analysis also benefited from the oversample of and specialized survey instrument targeted at homeschooling families in the most recent two waves of the survey (2012, 2016) enabling a more sophisticated analysis of the survey items carried across both waves regarding homeschooling and involvement. All of the aforementioned factors have enriched the significance of this study.

This dissertation is not without its limitations despite its strengths and ambitious nature. Although employment of the PFI-NHES survey affords researchers the ability to utilize a nationally-representative dataset to examine parent and family involvement across the United States, the cross-sectional nature of the survey, ease with which items are dropped on and off of the survey between waves, and questionable logic behind valid-skips on questions present distinct data limitations. This resulted in restrictions on examinable involvement measures for two of the dissertation's substantive chapters, the most significant of which being found in Chapter 4 when focusing on the homeschooling community. The limited sample size of homeschooling families, although it was already an oversample, also restricted the level of generalizability to the greater homeschooling community. The nationally-representative analysis

does not delve into regional or multi-level effects which may further elucidate involvement across the United States.

## **FUTURE RESEARCH**

“Family Matters. Or Does It?” expands the literature addressing the intersections of education, family involvement, disadvantage, and human behavior. It provides a solid foundation for further research within these increasingly important areas of study. While this nationally representative study controls for select aspects of disadvantage, future research should also examine whether region of the country and urban/suburban/rural residency exercise influence on the association between student outcomes and familial involvement. The ecological context has remained a particularly influential part of the discourse in the education literature and, as several studies have demonstrated, encapsulating these stratifying elements will serve to fill out the overall picture at hand. For much the same reason, future research should additionally seek to further examine the association of gender with performance and involvement. The consequences of not addressing the widening gender gap in education are slowly becoming clearer as impacts on the workforce and attainment become more apparent (ASPE 2013; Mankiw 2018; Sommers 2001; Whitmire 2010).

The 1996-2016 waves of the PFI-NHES provide rich data for investigating parent and family involvement. As previously addressed, it is not without room for improvement. Although the survey has retained several items over its 20-year span, its purging of a litany of involvement measures (among others) restricts researchers’ abilities to examine trends over time—on top of the existing restriction to pooled cross-sectional methods. Increasing the quantity of standardized and retained measures across future waves will afford researchers the ability to treat and investigate involvement as the complex multifaceted construct that it has shown itself to be as



opposed to more reductionist constructions. Reconsideration of the rationale behind valid-skips in the surveying process is also important, particularly regarding the inborn assumptions such decisions illustrate. Although it may seem simple at first to assume it is unnecessary to measure (for example) student performance and school choice for homeschooling families—assuming their sufficient divergence from educational norms would render such measures obsolete—doing so results in an incomplete understanding of an already understudied community.

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## **VITA**

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