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The racial-ethnic academic achievement gap is a long-standing phenomenon in the U.S. that has held the attention of scholars for decades. Research has found that accounting for factors such as SES reduces the initial gap but does not eliminate differences by race and ethnicity (Han & Palloni, 2009). Given the persistent racial achievement gap, researchers have placed greater emphasis on the importance of parent involvement in children's education for promoting academic achievement. Emerging literature suggests that lower levels of parent involvement found among ethnic minority parents when compared to White parents (Lee & Bowen, 2006) may explain disparities in achievement, however, this hypothesis has rarely been tested directly. Thus, the present study tested whether lower achievement among children of Caribbean and Mexican immigrants as compared to children of European immigrants can be explained by their parents' lower levels of involvement in education net of demographic variables. Further, this study tests whether lower levels of parental resources among Caribbean and Mexican immigrant parents can account for their expected lower levels of parent involvement. The present study was conducted using the Early Childhood Longitudinal Study, Kindergarten cohort dataset (ECLS-K). The analysis sample included White European (n= 207), Black Caribbean (n= 45), Mexican (n= 562), and East Asian (n= 95) immigrant children (first and second generation) who began kindergarten in the U.S. in 1998-99. Results indicated that children of European immigrants scored significantly higher in reading and math than children of Caribbean and Hispanic immigrants. Children of

European immigrants scored lower in math than children of East Asian immigrants and did not differ in reading. Consistent with hypotheses, varying levels of parent involvement among racial-ethnic immigrant parents partially accounted for racial-ethnic gaps in achievement. Further, racial-ethnic differences in parent involvement were partially accounted for by differences in parental resources to be involved. Implications for research and practice are discussed.

EXPLORING THE ACADEMIC ACHIEVEMENT GAP AMONG CHILDREN OF IMMIGRANTS: THE ROLE OF PARENT INVOLVEMENT AT HOME AND SCHOOL

by

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CHAPTER I

INTRODUCTION

The academic achievement gap between some racial-ethnic minority and White racial groups in U.S. schools is a well-documented phenomenon in educational research and a primary focal point of political discourse and education reform (Stiefel, Schwartz, & Chellman, 2007). Literature documenting differences in academic achievement has found that on a number of indicators, including standardized tests, dropout rates, and GPA, White and Asian students tend to outperform Hispanic and African-American students (Han & Palloni, 2009). Controlling for factors such as SES, family composition, and school resources, considerably decreases the initial gap but does not eliminate differences by race and ethnicity (Han & Palloni; Stiefel, Schwartz, & Ellen, 2007). Efforts at closing the racial achievement gap have increasingly focused on the role of parent involvement in children's academics among racial-ethnic minority and immigrant families. Although parent involvement has generally been linked to achievement for all children (Domina 2005; Fan & Chen, 2001; Jeynes, 2003; Lahaie, 2008) and has been found to vary among ethnic-racial groups (Fan, 2001; Lee & Bowen, 2006), few studies have empirically tested whether varying levels of parent involvement helps to account for the racial-ethnic achievement gap.

Researchers, school practitioners, and policy makers have focused heavily on academic achievement gaps over the years because education is valued in this country

(and many others) as a tool for upward mobility and social equity. In fact, many immigrant parents name education as the primary avenue to success for their children and as the reason they immigrated to the U.S. (Portes & Rumbaut, 2006; Pierre et al., 2006; Suarez-Orozco & Suarez-Orozco, 2001). Yet historically marginalized and racial-ethnic minority immigrant groups who should benefit most from educational attainment are the very groups who are most disadvantaged in the U.S. school system and at risk for low achievement (Lee and Bowman 2006).

Immigrant children are discussed in the literature on achievement gaps typically concerning their academic success relative to White-native children as a proxy for their assimilation into U.S. society (Crosnoe & Lopez Turley, 2011). Concerns about the assimilation of immigrant children, particularly those of racial-ethnic minority backgrounds, has grown in conjunction with the rising population of young immigrant children, now comprising of 23% of the U.S. school age population (Fortuny, Capps, Simms, Chaudry, & Urban, 2009) Several studies have evaluated the adaptation and assimilation of racial-ethnic minority immigrants compared to White natives and to their co-ethnic minority peers and have generally found that children of immigrants (those who are foreign born and second generation) tend to outperform their third plus generation co-ethnic peers and underperform compared to their White native peers (Han, 2008; Portes & Rumbaut, 2006; Schwartz & Stiefel, 2006). However this pattern does not hold across all racial-ethnic groups. For example, East Asian children generally perform equal to or better than White native children on indicators of achievement, while some groups (e.g. Haitian and Cambodian immigrants) consistently fare worse on measures of achievement

compared to native children (Glick, & Hohmann-Marriott, 2007; Han; Portes & Rumbaut), thus, it is important to explore heterogeneity in achievement among children of immigrants.

The methodology of comparing first and second generation immigrant children to their native peers addresses the question of the relationship between nativity and academic achievement but does not address the question of whether there is a racial-ethnic achievement gap between White and non-White immigrant groups. Although these studies provide valuable insight about the differential patterns of adjustment and assimilation of immigrants of various racial-ethnic groups compared to their native White or co-ethnic peers, they are limited in that they confound race and ethnicity with nativity and do not tap into the unique and varying experiences of different immigrant racial-ethnic groups. A more comprehensive evaluation of the divergent academic experiences of children of immigrants must include racial-ethnic comparisons among children of immigrants.

Further, within this framework, several immigrant subgroups have been understudied; notably, children of Black immigrants. The scant literature including children of Black immigrants, mostly in the area of early education, finds that, in general, their school readiness and academic achievement is above that of Hispanic children and below that of Asian children (Glick, & Hohmann-Marriott, 2007; Kao, 1999; Thomas, 2009). Provided that there are only a handful of studies evaluating the academic outcomes of young children of Black immigrants, it is too early to draw conclusions about their academic standing relative to their non-Black immigrant peers, particularly

compared to children of White and Asian immigrants. Although Black immigrants in the U.S. are by far outnumbered by Hispanic and Asian immigrants, their numbers have grown rapidly since the 1990s and are projected to continue on a steady increase (Kent, 2007). Given their growing numbers, researchers must to pay increased attention to the well-being and academic achievement of Black immigrant children.

Racial-ethnic differences in achievement are not attributable to race per se, but largely to the fact that other demographic factors such as education, income, and family structure vary among racial-ethnic groups as the product of a racially stratified social and economic system in the United States. When these variables are accounted for, the racial gap is substantially reduced. However, a seemingly unique effect of race remains, which is often deemed to be the influence of culture or other divergent experiences (Crosnoe & Lopez Turley, 2011). Varying levels of parent involvement among racial-ethnic groups has recently emerged as a potential source of achievement disparities; in turn, increasing parent involvement among racial-ethnic minority groups has become a strategy widely implemented for reducing the achievement gap (Barnard, 2004; Kim, 2009).

Research has demonstrated that overall, parent involvement is positively related to children's academic achievement regardless of race. For example, using a sample from the Chicago Longitudinal Study, Barnard (2004) found that parent involvement in elementary school was associated with several indicators of high school achievement, including lower dropout rates, highest grade completed, and on time high school completion. However, studies have found that in general, racial-ethnic minority immigrant groups display lower levels of parent involvement than European Americans

due to such barriers to involvement as limited English proficiency, and lower levels of income and education (Kim, 2009; Turney & Kao, 2009).

Despite the established importance of parent involvement to academic achievement and existing initiatives to increase involvement among racial-ethnic minority families as a mechanism to close achievement gaps, few studies have empirically tested whether lower levels of involvement among racial-ethnic minority parents helps to account for their children's lower levels of achievement. In light of evidence that levels of parent involvement vary among racial-ethnic groups, it is important to understand the extent to which this variance can account for racial-ethnic differences in achievement and whether specific aspects of involvement have unique influences.

Further, in order for researchers and practitioners to implement evidence based methods of improving parent involvement of immigrant parents, it is necessary to determine the primary mechanisms underlying different levels of parent involvement among racial-ethnic immigrant groups. Looking within the immigrant population is important due to the unique characteristics of different immigrant racial-ethnic groups such as differences of language, nuanced intersections of human capital and contexts of reception, and cultural constructions of the role of parents and schools (Levin & Belfeild, 2002; Portes & Rumbaut, 2006) that might be overlooked by simply comparing immigrants to non-immigrants.

Although the bulk of parent involvement research focuses on high school involvement, several studies suggest that earlier involvement from preschool through the

elementary school years has the most direct impact on achievement by setting the foundation for a positive trajectory of academic success (Barnard, 2004; Entwisle & Alexander, 1989; Singh, Bickley, Trivette, Keith, T., Keith, P., & Anderson, 1995). Research evaluating parent involvement in elementary school indicates that involvement is associated with achievement even after controlling for IQ and prior achievement (Englund, Luckner, Whaley, & Egeland, 2004; Halle, Kurtz-Costes, & Mahoney, 1997), indicating that parent involvement continues to play an important role in child's academic achievement in elementary school net of abilities in early childhood. Parent involvement might continue to play a role during elementary school because this is the time that children begin to learn the fundamental concepts and skills needed to succeed later in their academic careers. Thus, such parent activities as setting high expectations, helping with increasingly difficult homework, and serving as an advocate by keeping communication with the school, might bear a positive influence on academic achievement during this critical period. Given the continued importance of parent involvement in elementary school, it is important to determine whether variance in parent involvement at this developmental stage can help account for the racial-ethnic achievement gap.

Despite the predictive power of early academic achievement on later achievement, research on immigrant children, as with the broader academic achievement literature, has focused more heavily on the academic outcomes of first generation immigrant children in secondary school. There is a small, but growing literature focusing on academic outcomes of first and second generation children of immigrants in

elementary school (Crosnoe & Turley, 2011). With a few exceptions (e.g. Lahaie, 2008; Turney & Kao 2009), these studies have focused on the role of SES and other demographic variables (e.g., English proficiency) in explaining the achievement gap but have not yet focused on an evaluation of potential mechanisms, such as parent involvement, by which the unequal distribution of resources between racial-ethnic groups and divergent immigrant experiences might influence racial-ethnic gaps in achievement.

The present study seeks to address the dearth of literature concerning racial gaps in the elementary achievement among children of immigrants and the role of parent involvement as an explanatory mechanism. Using longitudinal data from a large national study, I examine racial-ethnic group differences in fifth grade reading and math achievement among first and second generation immigrant children of European, Caribbean, Mexican, and East Asian descent, and test the role of third grade parent involvement in explaining the influence of race on academic achievement. In addition, analyses are conducted to explore the mechanisms that drive varying levels of parent involvement between racial-ethnic immigrant groups.

CHAPTER II

RELEVANT THEORETICAL FRAMEWORKS

Segmented Assimilation

As children of immigrants assimilate into the U.S. school system, especially in the second generation, the task of researchers is to understand where and how they fit into the school system. Older theories of assimilation, primarily based on the experiences of White European immigrants, proposed that as immigrants adapt to U.S. culture, they increasingly forfeit their own language and customs and eventually blend in with U.S. society and make their way up the social ladder (Portes & Rumbaut, 2006; Portes, Fernandez-Kelly, & Haller, 2009). However, the recent arrival of immigrants who are more racial and ethnically diverse than previous waves, along with recognition of the racially stratified educational and economic system they encounter in the U.S., have prompted the development of new theories of assimilation that are more relevant to the diverse experiences of immigrants.

Given the stratified structure of the U.S. school system reflected in racial and economic gaps in achievement, the primary issue for the new immigrants concerns the various contexts, or segments, of society in which children and their families will assimilate, and the opportunities or barriers they will encounter based on these contexts. While for White immigrant families, assimilation might entail upward mobility and access to the benefits of White middle class American status, assimilation for some ethnic

minority immigrant families involves assimilating into racial-ethnic groups that are economically marginalized and racially discriminated against (Portes & Rumbaut, 2006).

Portes and Rumbaut (2006) outline various modes by which immigrants and their children are incorporated into society that, taken together with the human capital immigrants bring with them, can either help or hinder their opportunities for upward mobility. One of the dimensions particularly relevant to the racial achievement gap is racial discrimination and anti-immigrant sentiment experienced by certain minority racial-ethnic groups. For example, due to the color of their skin and stereotypes about their legal status, coupled with low financial and human capital, Mexican immigrants have faced persistent racial and economic marginalization; the academic achievement of their children has subsequently been impacted due to prejudices they face in school, as well as their overrepresentation in poor schools that lack resources. (Portes & Rumbaut, 2006). Black immigrant families also face experiences of prejudice and discrimination. At the same time however, some Black-Caribbean immigrants have relatively high human capital compared to more disadvantaged immigrant groups such as Mexican and Cambodian immigrants (Portes & Rumbaut, 2009); thus, their children may have better academic outcomes than those of Mexican immigrants. On the other hand, Chinese immigrants as a group have one of the highest levels of human capital and have experienced a relatively neutral reception; subsequently, their children have had better economic and educational success (Portes & Rumbaut).

Segmented assimilation helps explain some of the primary mechanisms driving racial-ethnic differences in achievement; however, many of the status variables

represented in segmented assimilation theory such as human capital, discrimination, and mode of incorporation are limited in their ability to explain the mechanisms and processes by which these variables exert influences on child outcomes. One mechanism by which parental human capital and contexts of reception can exert influence on the academic achievement of young immigrant children is through the process of parent involvement in academics. In addition to barriers to assimilation because of their own skin color (such as lower expectations from teachers), children of immigrants might also be at a disadvantage because of barriers their parents might encounter to being involved in their schooling. For example, perceived discrimination and anti-immigrant sentiment often lead minority immigrant parents to feel unwelcome by schools and thus unwilling to open relationships with school teachers and authorities (Arbona, Olvera, Rodriguez, Hagan, Linares, Wiesner, 2010). Further, low levels of human capital among minority immigrant parents can hinder their ability to provide the necessary time and material resources in the home to facilitate home learning. Thus, parental human capital, discrimination, and mode of incorporation might have an indirect influence on minority children's' ability to assimilate and succeed in school by means of parents' ability to be involved in children's educational experiences.

Theoretical Models of Parent Involvement

The extent to which parents are involved in their children's schooling has been associated with increased academic achievement (Dearing, Simpkins, Kreider, & Weiss 2006; Barnard 2004). Although research on parent involvement is growing, the construct have been defined inconsistently and is often identified by a one-dimensional measure

(Fan & Chen 2001; Hoover-Dempsey 2001). Researchers are now pushing to develop more comprehensive models of parent involvement that capture a wide range of involvement.

The present study is guided by the comprehensive models of parent involvement developed by Levin and Belfield (2002) and built upon by Hoover-Dempsey and colleges (Hoover-Dempsey & Sandler, 1995, 1997; Walker, Shenker, & Hoover-Dempsey, 2010). Hoover-Dempsey and colleges outline a theoretical model of parent involvement which encompasses predictors of parent involvement, different types of parent involvement, and the mechanisms by which parent involvement leads to positive academic and social outcomes.

First, there are several factors that influence parents' ability and motivation to be involved, including time and resources, general and specific invitations from schools and children, and cultural beliefs about their role in their child's education. The different types of involvement outlined in this theory include choice of school, the provision of a stimulating home environment, home-based learning activities, help with homework, parent—school communication, and parental goals and expectations. These types of involvement exert their influence on child outcomes through providing direct academic instruction, reinforcing learning at school, and modeling a general value of and positive attitude towards education.

For immigrant families in general, parent involvement in schooling might be hindered by limited resources such as SES, low English proficiency, and not feeling welcome or invited by schools due to their immigrant status. In regards to home-based

involvement through activities such as reading and writing and help with homework, immigrant groups with low English proficiency (e.g., Asian and Hispanic immigrants) might be limited in their ability and efficacy to help with their children's homework which is written in English. Further, engaging in reading and writing activities in their home language might build general cognitive skills, but such skills might not easily translate to an American classroom in which English is the primary language or one that might not incorporate or utilize bilingual learning (Portes and Rammbaut). In conjunction with low English proficiency, low levels of education, particularly among Hispanic immigrants, might impede on parents ability to help. Lower income levels among Black and Hispanic immigrants compared to White and Asian immigrants might also inhibit parents' ability to provide stimulating materials in the home.

In regards to school based involvement, low English ability might also discourage immigrant parents from opening or sustaining communication with schools and teachers. Not feeling welcome or invited by schools might be a particular issue for Black and Hispanic immigrant parents due to a perceived racial stigma. Cultural constructions of boundaries between home and school might also lower this type of involvement for some immigrant groups.

Together, these models guide the present study by providing a conceptual framework in which racial-ethnic group differences in achievement among children of immigrants might be explained by varying levels of parent involvement at home and in school, which result from social stratification and the divergent experiences of different immigrant groups.

CHAPTER III

LITERATURE REVIEW

The Benefits of Parent Involvement in Academics

Parent involvement in academics is a multifaceted construct. Levine and Belfield (2002) define three main domains of parent involvement including involvement at home, involvement outside of school, and involvement with the school. Home involvement includes a provision of a stimulating learning environment in the home (books, computer, newspapers), as well as learning activities such as reading, help with homework, and parent-child discussions about school (setting expectations). Involvement outside of school may include enrollment in after school activities or the provision of after school tutoring. Finally, involvement with school includes choice of school, parent-school contact/communication, and participation in parent-teacher organizations. The present study focused on involvement through school selection, home involvement (cognitively stimulating materials, home-based learning activities help with homework), and school involvement through contact, and parental expectations.

The literature on the benefits of parent involvement for children's academic achievement has found that although the benefits vary somewhat by race and ethnicity (Jeynes, 2003), parent involvement overall is generally positively related to achievement for all groups (Lee and Bowen 2006; Domina, 2005; Jeynes, 2003), however there are some inconsistencies, particularly with homework help and school involvement.

Controlling for race, Domina found that parent involvement in school and checking homework were positively related to academic achievement in elementary school, however, homework help was negatively related. In a study of the effect of parent involvement on the academic achievement of third and fourth graders, Lee and Bowen found that parent involvement at school, educational expectations, and homework help were all positively related to achievement for African American, and Hispanic children but help with homework was negatively related for European American children. In a meta-analysis evaluating parent involvement of K-12th graders, Jeynes found that reading with children, checking homework, and parental expectations were all positively related to achievement for all children, but attendance at school functions was not related to achievement for Asian and Hispanic children.

Inconsistent findings for the effect of homework help in the aforementioned studies (for others see: Hoover-Dempsey, Battiato, Walker, Reed, DeJong, & Jones, 2001) and the effect of parent—school contact might be due to differences in age between study participants. For studies that include older children along with younger children (i.e. Jeynes, 2003), negative effects might be driven by parents interfering in the education of their older children once children are already performing poorly. Such findings highlight the need to assess parent involvement at an earlier age that might better reflect proactive rather than reactive communication and homework help. Controlling for prior achievement might also help isolate the unique effect of parent involvement academic gains, regardless of prior level of achievement.

Although the aforementioned studies included Asian American and Hispanic American children, the majority of which have foreign born parents (Crosnoe & Turley, 2011), they did not distinguish between first, second, and third generation children. Given that there are academic differences between first and second generation immigrant children and their third generation co-ethnic peers (Han, 2008; Portes & Rumbaut, 2006; Schwartz & Stiefel, 2006) parent involvement and its influence on achievement is also likely to vary. The tendency to use broad pan ethnic groupings in parent involvement research without specifying the native and national composition of ethnic groups might also contribute to inconsistent findings.

Emerging literature concerning parent involvement specifically of immigrant children finds that some forms of parent involvement are beneficial to the academic achievement of immigrant children. For example, LaHaie (2009) found that the most significant parent involvement predictors of math achievement among kindergarten children of immigrants were the provision of a stimulating home learning environment such as the number of children's books, frequency of learning activities outside of school such as reading and writing with the child, and a parent having met a teacher within the past school year. Studies with older children have also found that parental educational expectations are beneficial for children of immigrants (Kao, 2004; Kim, 2002).

School selection and school-based involvement. Parent involvement with school through school selection and parent-school communication might be a meaningful predictor for early academic achievement of second generation immigrant children. Choice in which school a child attends can be important for immigrants, particularly

those of lower income (Levine & Belfield, 2002), given the economic and sometimes racial segregation of schools in the US. Immigrant parents who have the economic resources to send their child to a private or charter school can provide their children with better academic opportunities. Similarly, immigrant parents who live in neighborhoods with under-resourced schools but have the option to send their child to a school in a better neighborhood can greatly impact their children's academic achievement simply by sending them to a well-resourced school.

Parents can also be involved at school by meeting their child's teacher and opening communication about their child's assignments and progress (Fan and Chen, 2001; LaHaie, 2009). This type of involvement provides parents with a level of control over the academic experience of their child by being able to monitor their schooling. School contact and communication might also demonstrate a parents' ability to serve as an advocate for their child to be placed in the proper classes or in the case of unfair treatment (Hoover-Dempsey & Sandler, 1995; 1997). However, given inconsistencies in the effect of school involvement on achievement, assessment of parental—school contact at earlier ages might better reflect proactive rather than reactive communication. Controlling for prior achievement might also help isolate the unique effect of parent involvement regardless of prior level of achievement.

Home-based involvement. Home based involvement has also been linked to the academic achievement of children of immigrants. Providing a cognitively stimulating home environment by having items such as books, a computer, and dictionaries, and engaging in reading and writing activities as well as helping with homework can serve as

ways for parents to model a value for intellectual activity as well as reinforce learning at school through instruction (Hoover-Dempsey et al., 2001; Hoover-Dempsey and Sandler, 1995; 1997). In regards to parental homework help, despite general mixed results pertaining to its influence on achievement, the study looking within the young children of immigrants found a positive relationship (Lahaie, 2008) indicating that helping with homework early in the elementary school years could be beneficial.

Parental expectations. Many immigrant parents immigrate to the United States with the primary goal of providing their children with better educational opportunities than they would have had in their country of origin (Portes & Rumbaut, 2006; Pierre et al., 2006), thus an important avenue for involvement for immigrant parents is through their communication of high expectations for their children (Portes et al., 2009; Suarez-Orozco & Suarez-Orozco, 2001; Rumbaut, 2000).. Parental expectations of immigrant children can be the most important form of parental involvement, especially in light of consistent findings that expectations has the greatest impact on academic achievement for all children (Fan & Chen, 2001). Maintaining high educational expectations for their second generation children can also serve as a mechanism by which ethnic minority immigrant parents can maintain a value of education in their children that can protect them from potential negative influences of their native peers (Suarez-Orozco & Suarez-Orozco).

Racial-ethnic Variance in Parent Involvement

Despite evidence for the benefits of parent involvement for immigrant children, there is also some evidence that racial-ethnic minority children, particular Hispanic

American (many of whom are second generation), and African American children, have lower levels of parent involvement than European American children (Lee & Bowen, 2006; Fan 2001). However, this evidence is somewhat mixed and appears to vary by how involvement is conceptualized. For example, Lee and Bowen found that among parents of third and fourth graders, European American parents had more frequent contact with schools than ethnic minority parents. Among high school youth, however, Fan found that parents of Asian and African American youth had higher educational aspirations than parents of European American youth; controlling for SES, parents of Hispanic youth also had higher aspirations. This is consistent with other within-group studies that have found high parental educational aspirations for Hispanic and Asian youth (Carranza et al. 2009; Kao, 2004).

Notably, the comparison group in these studies is often European American and does not include European immigrant or Black immigrant parents; these studies also tend to not distinguish between second and third generation Asian and Hispanic American children. Few studies systematically evaluate racial ethnic variance in parent involvement among the young school aged children of immigrants. One recent study evaluated parent involvement with school among immigrant parents of Black, Asian, and Hispanic kindergarteners (operationalized as attendance at school functions, PTA meetings, and volunteering) and found that Black, Asian, and Hispanic parents were less likely to participate compared to White-native parents and that Black immigrant parents were the least likely to do so. Compared to White immigrant parents however, Black and Asian parents were less likely to participate but Asian parents were least likely compared to

White immigrant parents. Hispanic parents were just as likely as White immigrant parents to participate (Turney & Kao, 2009).

The aforementioned study demonstrates the need for more research evaluating the racial-ethnic patterns of parent involvement of young children within the immigrant populations given evidence that patterns of involvement differ when the White comparison group is also immigrant. Additionally, the mechanisms that drive racial-ethnic differences in parent involvement among immigrants as well as the influence of parent involvement in closing the achievement gap likely differs from those that drive a nativity gap. Although Turney and Kao (2009) begins to address potential gaps in parent involvement between racial-ethnic immigrant groups, the study is limited in that only parent involvement through school participation was examined.

Barriers to Involvement Faced by Immigrants

According to Hoover-Dempsey and Sandler (1995; 1997) some reasons for involvement include the time and resources parents have to be involved, their sense of efficacy in their ability to help their children succeed, and their construction of the parental role in education. Therefore, it is most likely not that immigrant parents are uninterested in the education of their children—to the contrary most immigrant parents say that education is the most important avenue to success for their children (Suarez-Orozco & Suarez-Orozco, 2001)—rather, immigrant parents may face barriers such as lack of economic resources and limited English proficiency that limit their ability to become involved. For example, Turney and Kao (2009) found that immigrant parents reported a number of barriers such as problems with transportation, no childcare, limited

English language ability, and not feeling welcome that were related to lower parent involvement at school. Further, some immigrant parents migrate from home countries in which children's schooling is the responsibility of the school and not parents (Suarez-Orozco & Suarez-Orozco). Thus, immigrant parents who do not understand the school system in the U.S. may not realize the benefits of parent involvement and advocacy.

Although there are barriers to parent involvement for immigrants in general, these barriers might be exacerbated for some immigrant groups over others. Immigrant racial-ethnic groups vary in levels of human capital, language ability, and modes of incorporation which in turn differentially influence parents' ability to engage in their children's schooling. In other words, the differential parental circumstances of immigrant parents can have an effect on their children's patterns of assimilation into the U.S. school system by way of parent involvement.

Financial resources and human capital. According to the segmented assimilation framework (Portes et al., 2009), parental capital (income, education, and occupation) is one of the primary factors that influence the assimilation patterns of children of immigrants. Research has found that one of the major predictors of both early and later school academic achievement is parental income and educational attainment (Davis-Kean, 2005; Sektnan, McClelland, Acock, & Morrison, 2010). Research also supports that more highly educated parents are more involved in their children's schooling in and outside the home. Davis-Kean and Sexton (2009) found that parental education was predictive of educational expectations and school involvement and that these mediated the association between parental education and academic achievement.

Income, which is highly correlated with education, also affords parents the means to provide the necessary resources in and outside of the home that children need in order to succeed (Duncan & Brooks-Gunn, 1997). Therefore, these studies show that parental capital is linked to academic achievement through its influence on aspects of parent involvement such as expectations and school involvement.

In general, parents of Black immigrant children, tend to have higher levels of SES compared to parents of Hispanic immigrant children and lower levels compared to parents of Asian and non-Hispanic White immigrant children (Thomas, 2010). Children of Black immigrants are also at a higher risk of poverty than children of Asian and non-Hispanic White immigrants. Given the advantages of higher SES in promoting parent involvement, White and Asian children of immigrants might have parents who are better equipped to participate in their schooling in the dimensions of school selection, expectations, home learning environment, and home-based learning activities and subsequently bear a positive influence on their academic achievement compared to children of Black and Hispanic immigrants.

English language proficiency. Parents' proficiency of the English language, in terms of reading writing and ability to comprehend nuances of verbal speech, can also serve as a form of social capital and a means by which parents can open doors of communication with schools. Research has found that parents' English language proficiency predicts level of parent involvement among the parents of immigrant children (LaHaie, 2009; Turney & Kao, 2009). Studies of Spanish speaking immigrant parents have also found that language can serve as a barrier between parents and English-

speaking teachers and inhibit parent involvement at school (Garcia Coll, Akiba, Palacios, Bailey, Silver, DiMartino, & Chin, 2002; Reese, 2002; Stanton-Salzar, 2001). Not surprisingly, a study evaluating the barriers to parental school involvement in elementary school found that Hispanic and Asian immigrant parents were more likely than native-White parents to feel that language was a barrier to school involvement (Turney & Kao). Limited English proficiency might also inhibit parents from being able to help with their children's reading homework. In regards to school selection, higher English proficiency might increase the ability of immigrant parents to speak with others in the community and acquire information to better navigate the school system in such a way that will best serve their children.

As a group, parents of non-Hispanic White immigrant children have the highest levels of English proficiency, followed by parents of Black immigrant children, Asian immigrant children, and Hispanic immigrant children respectively (Thomas, 2010). In regards to their ability to communicate with the schools and help with homework, parents of White and Black immigrant children might be better equipped than Asian and Hispanic immigrant parents. However, the ability for immigrant parents to help with homework and communicate with schools depends both on their English language proficiency and social economic status.

Modes of incorporation. The social contexts in which immigrant families are received in terms of level of racial discrimination and anti-immigrant sentiment is another influential factor in assimilation patterns of children of immigrants. Research has found that Hispanic immigrant families, primarily those of Mexican origin, are often viewed as

a source of illegal immigration by mainstream Americans (Arbona et al., 2010). Immigrant parents in this predicament inevitably feel unwelcome in the schools and hesitate to form school relationships for fear of being deported (Arbona et al.)

Further, some immigrant children and parents might feel marginalized because of the color of their skin. Consistent with studies that have found that Hispanic immigrants are often targets of racial discrimination, Turney and Kao (2009) found that Hispanic, as well as Asian immigrant parents were more likely than native White parents to feel unwelcome by their children's school. Less is known about the experiences of discrimination of Black immigrant children and their parents in schools. Evidence from a few studies suggest that the academic outcomes of second generation children of Black immigrants closely resemble that of their African American peers (Kao, 1999), indicating that these children are either taking on African American identities and/or facing similar discriminatory and segregated experiences in their schools.

On the other hand, because of their relatively high levels of SES and English proficiency (Portes et al., 2009; Thomas, 2010) Black immigrant parents might be able to circumvent racial boundaries in schools and be able to serve as advocates for their children. Further research is needed to determine whether or not Black immigrant parents feel unwelcome by their children's schools and whether this is a detriment to open parent—school communication. Conversely, White immigrant parents might have more comfort with forming parent-school relationships due to higher levels of SES and a neutral reception (Portes et al., Thomas).

Given the various factors that might work in tandem to influence levels of involvement among immigrant parents, it is important to determine which factors, when taken together, are most predictive of parent involvement and more influential in accounting for the racial-ethnic differences in involvement.

Current Study

Research question 1. To address gaps in the literature, the present study examines achievement disparities in elementary school reading and math among the following groups of second generation immigrants representing four major race-ethnic categories—children of White European immigrants, children of Black Caribbean immigrants, children of Mexican immigrants and children of East Asian immigrants.

Hypotheses. I hypothesize that White children of immigrant parents will score higher on standardized tests of reading and math than Black and Hispanic children of immigrant parents, and lower than Asian children of immigrant parents. Given that previous studies have found that much of the variance associated with race in achievement scores can be attributed to socio-demographic differences rather than racial-ethnicity per se, it is expected that controlling for SES, marital status, and parent length of residence in the U.S. will reduce racial-ethnic differences in achievement. However, consistent with previous research, I expect that significant differences by race will remain.

Research question 2. Parent involvement in academics is increasingly considered advantageous in promoting academic achievement. However, racial-ethnic groups might have varying levels of parental involvement. This study explores race group differences

across six dimension of parent involvement, using multiple mediation methods to examine whether differences can be accounted for by parental SES, English language proficiency, and perceived school support for involvement.

Hypotheses. I hypothesize that racial-ethnicity will be related to parent involvement such that children of European immigrants will have parents with higher levels of involvement than children of Caribbean and Mexican immigrants across the six dimensions of parent involvement and that this relationship will be mediated by higher levels of parental resources among European parents. I hypothesize that when compared to East Asian parents, European parents will only have higher levels of school contact and help with homework and that this relationship will be mediated by their higher levels of English proficiency and lower likelihood to perceive that language was a barrier to their involvement. European parents were not expected to differ from East Asian parents on the other dimensions of parent involvement due to similar levels of income, education, and prestige.

Research Question 3. Given evidence for the importance of parent involvement for immigrant children and of variation in involvement by racial-ethnicity, this study asks to what extent parent involvement in academics at home and through school relationships account for differences in reading and math scores between White children of immigrants and racial-ethnic minority children of immigrants.

Hypotheses. The hypothesized lower levels of parent involvement of Caribbean and Mexican immigrant parents compared to European immigrant parents are expected to account for racial-ethnic gaps in achievement. Lower levels of parent involvement of

Asian immigrant parents compared to European parents are expected to exacerbate the achievement gap between these groups. Additionally, I hypothesize that racial-ethnic differences in parent involvement will uniquely account for racial-ethnic differences in achievement even after controlling for demographic factors.

Further, I assess whether there is relative change in achievement controlling for prior third grade scores between racial-ethnic groups and whether, parent involvement assessed at third grade accounts for relative gains. I hypothesized that White children would make relatively more gains in math and reading scores from third to fifth grade compared to Black and Hispanic Children, while Asian children would make more gains compared to White children. I hypothesized that once controlling for third grade achievement, higher levels of third grade parent involvement among European immigrant children will account for their gains. Controlling for third grade achievement tells whether parent involvement matters for changes in achievement from third grade to fifth grade.

CHAPTER IV

METHOD

Sample

The present study was conducted using The Early Childhood Longitudinal Study, Kindergarten cohort data set (ECLS-K). The ECLS-K is a study of children in the United States who began kindergarten in 1998-99. The ECLS-K focuses on the school experiences of children starting from kindergarten (class of 1998-99) followed through middle school (class of 2007) and allows for longitudinal analysis of the influence of parent, school, and individual level variables on school achievement. Direct child assessments were administered by study investigators. Parent interviews were also conducted each year of the study on a range of topics including home environment, family life and structure, family health, and parent involvement. Interviews were conducted with primary caregivers.

The present study focuses on racial group differences within the immigrant population; however, each racial group includes families from many different countries of origin. Because small sample sizes inhibit examination of specific nationalities and I am not able to control for nationality within each racial group, I focus on the largest region of origin for each of the four major racial-ethnic categories (N=909). Groups include: White European (n= 207), Black Caribbean (n= 45), Mexican (n= 562), and East Asian (n= 95) immigrants. The mean income level was $40,690, 81% had parents who

were married, and 50% were female. The present analyses draw on data from three time points, 1st, 3rd and 5th grades. Most of the parent respondents were mothers (92%); however, some questions ask respondents for information about their child's father as well.

Children of immigrants include those that were themselves born outside the U.S. (first generation) and those who were born in the U.S. to immigrant parents (second generation). Because the first generation children in this particular study began school in the U.S. at a very early age, generation status was not included in analyses. In the literature, first generation children who begin school in the U.S. do not differ in academic outcome from second generation children who were born in the US (Rumbaut, 2004; Kao & Tienda, 1995). 90% of the immigrant children analyzed in this data were second generation; bivariate correlations revealed no association between generation status and math (r= .002, p= .980) or reading scores (r= .008, p= .826).

Measures

Race. For the purposes of this study, racial-ethnic groups included non-Hispanic White, non-Hispanic Black, Hispanic, and Asian children and excluded children who were identified as Native American, Alaskan Native, or mixed race. Racial categories were further distinguished by parent nationality. As noted above, the current analysis focuses on families from the predominant region of origin for each immigrant racial-ethnic group; that is, White children of European immigrant parents, Black children of Caribbean immigrant parents, Hispanic children of Mexican immigrant parents, and Asian children of East Asian immigrant parents. Children were included as long as one

parent reported being foreign-born. In most cases, both parents were from the same region; in the minority of cases in which a child had two immigrant parents from different regions, the region of the parent identified as the primary caregiver was used.

Parent Involvement. Parent involvement in children's education was assessed in terms of six different behaviors (or sets of behavior): school selection, the home learning environment, home-based learning activities, help with homework, school contact (as a proxy for communication), and parental expectations. Measures were taken from the third grade parent interview and were used to predict fifth grade outcomes.

***School selection*.** School selection was measured with two items that asked parents whether the target child's school was selected (vs. assigned), and whether their child's school affected their current home choice. A dichotomous variable was created to identify parents who actively selected the school their child would attend; this variable was coded with a value of "1" if parents responded "yes" to either question, and "0" if they responded "no" to both questions.

Home learning environment (HLE). Learning opportunities in the home environment were measured using a count of stimulating resources provided in the home. Parents were asked during interviews whether or not there was a dictionary or encyclopedia in the home, a pocket calculator, a computer, and whether or not they received a newspaper, and a regular magazine. Parents were also asked how many children's books, including library books, their target child had. The above listed items were summed to create a composite score. The number of books reported by parents ranged into the 1000s and was highly skewed towards very large numbers. Rather than

giving a point for each book in the household, a point was given if the number of books in the home was above the 50th percentile in the overall sample. Thus, the home learning environment score ranged from 0-6.

Home-based learning activities (HLA). Parents were asked how often in a typical week, they or another family member participated in a number of activities with the target child. Items chosen for the present analyses include: 1) "Practice reading, writing, or working with numbers?" and 2) "Read books to child?" Participants could respond in a range from 1 (not at all) to 4 (everyday). Items were averaged for a composite score.

Homework help. Parents were asked whether the target child's mother helped with math and reading homework and whether the child's father helped with math and reading homework. Respondents could answer "yes" or "no" for mother and father for math and reading respectively. A dichotomous variable was created to indicate any parental help with homework; this variable was coded "1" if either the mother or father helped with reading or math homework, and "0" if neither parent helped with reading or math homework.

Parent-school contact. Parent involvement at school was measured with several items that served as indicators of the parent-school relationship. One question asked whether or not parents had met their child's teacher during the present school year. Another question asked whether during the present school year, the interviewee or another adult in the household had contacted the target child's teacher or school for any reason having to do with the child. A sum was created in which one point was given for each answer of "yes," therefore, communication ranged from 0-2.

Parent academic expectations. Because parents can be involved in other ways that do not require direct contact with a child's school or school work, a measure of parent involvement in the form of parental expectations for achievement was included. One item asked parents to indicate how far in school they *expect* their child to go. Response options ranged from 1 (receive less than a high school degree) to 6 (receive a PhD, MD, or other advanced degree). For the analysis, a dichotomous variable (0/1) was created to identify parents who expected their child to obtain a college degree or higher.

Achievement.

Reading and math achievement. Direct assessments of children's reading and math abilities were used as the primary measure of academic achievement; assessments from fifth grade were used in these analyses. Children were administered developmentally appropriate literacy assessments derived from national and state standards that measured skills typically taught in schools. The reading assessment measured basic skills in print familiarity, letter recognition, beginning and ending sounds, recognition of common words (sight vocabulary), and decoding multisyllabic words; vocabulary knowledge such as receptive vocabulary and vocabulary-in-context; and passage comprehension. The math assessment measured concepts such as relative size, sequence, addition and subtraction, multiplication and division, place value, rate and measurement, fractions, and area and volume. Math and reading scores were standardized into Z-scores to better allow for peer comparisons.

Parental Resources to be involved. Parent resource variables for the present analyses were taken from the first grade time point, one wave before the third grade

parent involvement variables, therefore, parent resources at first grade were used to predict parent involvement at third grade.

Parental financial and human capital. Financial capital and human capital were measured using parents' income, highest educational attainment level, and occupational prestige. Annual household income was measured as a continuous variable in dollar amounts. Educational attainment was determined by the parent with the highest level rather than just the mother's attainment. Parental highest education was measured on a scale from 1 to 9 (1= 8th grade or below, 2= 9th-12th grade, 3= high school diploma/equivalent, 4= voc/tech program, 5= some college, 6= bachelor's degree, 7= graduate/professional school-no degree, 8= master's degree, 9= doctorate/professional degree). Education was collapsed into a scale from 1-5 (1 = less than high school, 2 = high school diploma, 3 = some post–high school education or voc/tech program, 4 = college graduate, 5 = postgraduate degree) and treated as a continuous variable. Parents were also given an occupational prestige score based on the 1989 General Social Survey ratings. Prestige was measured on a range from 29.6 (laborers, cleaners) to 63.43 (Natural sciences and mathematicians). Financial and human capital variables were entered separately in the models evaluating the effect of race on parent involvement through parental resources in order to understand the contribution of specific resources.

Perceived school support. Parents were asked to indicate whether or not certain reasons made it harder to participate in activities at the target child's school. Two items were used to measure parents' perceived support from school for their involvement. These items include "the school does not make your family feel welcome" and "problems

because you or members of your family speak a language other than English and meetings are conducted only in English." Items were entered individually rather than combined because some racial groups might experience one without the other. For example, East Asian parents are likely to report feeling that language is a barrier but not necessarily that feeling unwelcome is a barrier.

Parental English proficiency. Parents were asked how proficient they felt they were in reading, writing, speaking, and understanding English on a scale from 1 (very well) to 4 (not well at all). Items were reverse coded so that higher numbers indicated better proficiency (1=not well at all, 4=very well). If parents indicated that English was their primary language and they did not speak a secondary language in the home, they were not asked this question and are recoded here as being fluent in English (i.e., a score of 4). A composite variable taking the average proficiency score of reading, writing, speaking, and understanding English was created to indicate overall English proficiency.

Control variables. Child gender and parental marital status were included as controls because their potential to serve as alternative explanations for differences in achievement. Male was coded as 1, female as 0. Parents were asked whether they were married, separated, divorced, widowed, or never married. Marital status was recoded into a dichotomous variable such that "married" was coded as 1 and all other responses were coded as 0. Parental length of residence in the U.S. was also included as a control variable because racial groups might vary in the length of time they have been in the U.S. Length of residence in the U.S. might also influence parents' comfort with the school system and thus influence parental involvement. If both parents were immigrants,

parental length of residence was the average time both parents had lived in the U.S. If only one parent was an immigrant, only that parent's length of residence was used. In the models evaluating the unique effect of race on achievement through parent involvement, a composite SES variable was used as a control.

Analysis Plan

Descriptive analyses included bivariate correlations between key study variables as well as means or proportions, standard deviations, standard errors, and ranges for demographic, control, and parent involvement variables.

Question 1: Racial Gaps in Achievement. To test the hypothesis that White children of immigrants would score higher than Black and Hispanic children of immigrants and lower than the Asian children on math and reading tests, two one-way ANOVAs were conducted. Planned linear contrasts between White children of immigrants and each ethnic minority group were used to determine which group means were statistically different from the White group. Parallel ANCOVAs were then conducted controlling for gender, SES, parent marital status and parent length of residence in the US to determine if there was a unique effect of race on achievement net of demographic variables.

Questions 2 and 3: Mediation Analyses. To analyze the mediating role of parental resources in explaining racial-ethnic differences in parent involvement and the mediating role of parent involvement in explaining racial differences in achievement, multiple mediation models were implemented using STATA's (StataCorp. 2011) user-created program "binary_mediation." Binary_mediation (Ender, 2010) is similar to the

SPSS macros created by Preacher and Hayes (2008) to analyze multiple mediation models using the product of coefficients approach to mediation by assessing indirect effects. However, whereas the Preacher and Hayes macros only allow for the assessment of mediation with continuous mediators, binary_mediation allows for analyses of both continuous and binary mediators and outcome variables. In this approach, when a model includes a binary mediator and/or outcome variable, logistic regression is used (OLS regression is used for continuous variables). Normally, this would mean that the coefficients across the regression equations for each path needed to estimate the indirect effects would end up on different scales. In order to make coefficients comparable across regression equations for models that include binary variables, the program multiplies each coefficient in the model by the standard deviation of the independent variable in the equation and divides by the standard deviation of the outcome variable (MacKinnon & Dwyer, 1993)

Rather than the causal steps approach to mediation popularized by Barron and Kenny (1986), statisticians and methodologists in the social sciences are now recommending an analysis of mediation through the assessment of indirect effects using a single test of the product of coefficients. With the product of coefficients approach, the relationships between the independent and dependent variables, the independent and mediating variables, and the mediating and dependent variables are grounded in theory and empirical evidence rather than significance testing of each individual path (Preacher & Hayes, 2008a).

There are several reasons why statisticians and methodologists now caution against the use of causal steps to mediation. First, the causal steps approach is among the lowest in power to detect a mediating or intervening effect when there is one (MacKinnon, Lockwood, C. M., Hoffman, West, & Sheets, 2002). The biggest problem with the causal steps approach is the prerequisite that there must be a total effect of X on Y, or an effect to be mediated. However, a non-significant total effect could be due to inconsistent mediation in which a*b and c' are of opposite signs, or in the case of multiple mediation when there are counteracting mediating effects. Further, it is possible for the indirect effect to be significantly different from zero even if one of the paths, a or b, are not statistically significant.

The rationale of this approach is that when all variables are observed in a mediation model, the total effect "c" is mathematically equivalent to the indirect effect a*b plus the direct effect "c' " (c= a*b +c'). Stated differently, the indirect effect or mediating effect (a*b) is equal to the difference between the total effect of the IV on the DV and the direct effect once the mediators are taken into account. Thus, if a*b is significant, this implies that the mediator/s significantly accounts for the effect of the IV on the DV and/or that the independent variable is significantly related to the dependent variable through the mediating variable/s. Given that the indirect effect is defined and quantified by the product of paths a and b, inferences about the existence of the indirect effect is based on tests of the product itself rather than significance of each individual path (Hayes, 2009). In other words, whereas the causal steps approach first requires a statistically significant relationship between the IV and the DV, then the IV and the

mediator, and finally the mediator and the DV, the product of coefficients approach requires only an evaluation of the indirect effect of the IV to the DV through M by testing the product of the coefficient of path "a" (IV to M) by path "b" (M to DV controlling for IV), thereby directly quantifying the amount of mediation and reducing the rate of type II error by reducing the number of individual significance tests for each path.

It is also recommended that with conceptual models that include multiple mediators that all mediators be entered simultaneously. This method addresses the issue of collinearity among variables and allows for the analysis of unique specific indirect effects of individual variables while controlling for other intervening variables (Preacher & Hayes, 2008b). Multiple mediation is a simple extension of simple mediation in which $c = c' + a_1b_1 + a_2 b_2$. In multiple mediation models, the effect of X on Y through an individual M is referred to as a specific indirect effect. The sum of the specific indirect effects is called the total indirect effect (Hayes, 2009). A non-significant total indirect effect of all mediators as a set does not preclude tests of specific indirect effects of individual mediators given that significant specific effects can work in opposing directions and thus "cancel out" the total indirect effect.

Given that the product of a and b are often asymmetrical (Hayes, 2009), bootstrapping is preferred and recommended over the Sobel test as a test of significance of effects because it does not assume normality of the sampling distribution. Further, because the hypothesized models include binary variables, the models also do not meet the linear assumption. Thus, point estimates, standard errors, and 95% confidence intervals for the total, specific indirect, total indirect, and direct effects for each model

were based on 5000 bootstrap resampling with replacement replications. If the confidence interval did not include zero for a given effect, I concluded that the effect was statistically different from zero.

To facilitate my discussion of mediation and indirect effects, I present the following text in terms of the effect of racial-ethnicity on an outcome through the hypothesized mediators. “The effect of race on an outcome” simply refers to racial-ethnic group differences in that outcome given that the IV in each model is categorical race-ethnic groups. These data do not allow for causal claims of racial-ethnic effects on any variable.

Question 2 models. The first set of mediation analyses evaluated whether child racial-ethnicity is associated with parent involvement through its association with parental resources (income, education, prestige, and English proficiency) controlling for marital status and length in of residence in the US. I hypothesized that racial-ethnic minority immigrant parents would have fewer resources and would thus be less likely to be involved or have lower levels of involvement. Separate mediation paths were conducted for each dimension of parent involvement as the outcome. In the case of parental contact with the school, indicators for perceived school support for involvement (not feeling welcome and non-English as a barrier) were added as mediators. Upon the suggestion of Preacher and Hayes (2009) my evaluation of the multiple mediation models involved 1) testing the total indirect effect to decide whether resources as a set of variables transmit the effect of racial-ethnicity to parent involvement, and 2) testing whether each individual resource in the context of the other resources uniquely transmits

the effect of racial to parent involvement. For each dimension of parent involvement, parallel mediation paths were conducted to compare each racial-ethnic minority group to the European group using dummy codes. For each model, one dummy was entered as the independent variable while the other two dummy variables were entered as covariates (this is mathematically the same as entering all dummy variables at the same time as IVs in a regression model). Given that the IV is categorical, effects are described relative to the omitted group (Preacher & Hayes, 2011).

Question 3 models. The second set of multiple mediation analyses tested the indirect effect of racial-ethnicity on achievement through its effect on parent involvement. The total indirect effect through parental resources as a set and the specific indirect effects for each dimension of parent involvement were examined. Mediation paths were conducted for math and reading as the outcome separately. Again, parallel mediation paths were conducted to compare each ethnic minority group against the omitted European group within math and reading. Models were run first with no controls, next controlling for demographic variables (SES, parental length of residence, and marital status), and finally controlling for demographic variables and prior third grade achievement.

Model assessment. It is still necessary to test the total effect of X on Y without the mediator (c path) as well as the direct effect of X on Y independent of the mediator when the mediator is included (c') in order to determine the type of mediation (Zhao, Lynch, & Chen, 2009). If both the total effect and indirect effect were significant, and in the presence of the mediator the direct effect of X on Y was no longer significant, I

inferred that there was total mediation in which the mediator completely accounted for the effect of X on Y. If the total and indirect effects were significant, and the direct effect was still significant, I inferred that there was partial mediation, meaning that there was a significant difference between the total effect and the direct effect but an unexplained relationship between X and Y remained. In other words, the effect of X on Y was significantly reduced once the mediator was accounted for, however their might be other factors that explain the remaining effect. On the other hand, if the total indirect and/or specific indirect effects were significant but the total effect of X on Y was non-significant, I inferred that there was indirect effect mediation only, In other words, X had an effect on Y only through its effect on M. If there was no total, direct, or indirect effects of X on Y, I concluded that there was no relationship between X and Y. Significance testing of the indirect effects were based solely on the product of a and b. Little's Missing Completely at Random Test was non-significant (p=.056) implying that the missing cases were not systematic. Each model was run using list-wise deletion, therefore, each constituent path (a, b, c, and c') was estimated based on the same sample size.

CHAPTER V

RESULTS

Descriptive Statistics

Means and standard deviations (or proportions where appropriate) for key study variables are presented in Tables 1 (achievement variables), 2 (parental resource variables), and 3(parent involvement variables). Bivariate correlations among key study variables are presented in Table 4. In general, means and bivariate correlations supported the hypothesized relationships between study variables. Several types of parent involvement--home learning environment (HLE), school selection, help with homework, and parental expectations--were positively related to children's reading and math scores. However, home-based learning activities (HLA) were negatively associated with reading and math scores, and school contact was not significantly related. Parental income, education, and prestige were all positively related to school selection, home learning environment, help with homework, and college expectations. Income and education (but not prestige) were positively related to communication, but none of these variables were related to home-based learning activities. English proficiency was positively related to all dimensions of parent involvement with the exception of college expectations for which it was negatively related. Perceived barriers to involvement (based on English ability and feeling welcome) were not related to level of communication with schools.

Table 1

Fifth Grade Child Outcomes Variables (n=909)

Variables	M	SD	SE	Obs.	W-obs
5th Grade Math					
White-European	54.70138	9.378581	0.910456	214	62245.24
Black-Caribbean	48.16498	8.176567	1.531156	47	14234.12
Hispanic-Mexican	46.44386	9.504264	0.472085	749	241414.2
Asian-East Asia	61.23466	14.98375	1.230361	99	10976.45
5th Grade Reading					
White-European	54.47699	8.767609	0.751037		
Black-Caribbean	47.66003	9.201704	1.711274		
Hispanic-Mexican	44.56574	9.746559	0.61267		
Asian-East Asia	56.29219	13.90493	1.073782		

Table 2

Parent Descriptive Statistics from the 1st Grade Parent Interviews

Variables	%	M	SD	SE	Range
Highest Parent Education					1--5
White		3.536964	1.078706	0.090969	
Black		2.527698	0.896938	0.141735	
Hispanic		1.845203	0.893537	0.046825	
Asian		3.696569	1.756292	0.167217	
Income					
White		69180.58	66786.29	5699.699	
Black		29550.46	25134.3	3495.809	
Hispanic		23063.45	16862.16	876.358	
Asian		61234.45	112571.5	8482.55	
Prestige					
White		37.22103	15.6215	1.193097	
Black		29.22737	13.57632	2.330783	
Hispanic		24.77666	10.91397	0.53276	
Asian		33.37547	20.95033	1.984985	
English Proficiency					1--4
White		3.857342	0.368667	0.03076	
Black		3.86783	0.446263	0.078638	
Hispanic		2.36975	1.064369	0.052979	
Asian		3.013289	1.209478	0.106838	
Feel Unwelcome					
White	0.055571			0.030351	
Black	0.129402			0.063038	
Hispanic	0.108895			0.01567	
Asian	0.008965			0.009014	
Language Barrier					
White	0.080974			0.031637	
Black	0.015157			0.014235	
Hispanic	0.176463			0.022049	
Asian	0.279324			0.056444	
Married					
White	0.906947			0.022398	
Black	0.531522			0.077301	
Hispanic	0.758729			0.016171	
Asian	0.933904			0.038387	
Length of Residence in the U.S					
White		22.41681	13.80936	1.28866	
Black		17.09793	7.700028	1.486558	
Hispanic		15.71373	7.756923	0.402338	
Asian		18.01077	10.81887	0.917138	

Table 3

3rd Grade Parent Involvement

Variables	%	M	SD	SE	Range
School selected-yes					
White-European	0.573445			0.044541	
Black-Caribbean	0.356657			0.093921	
Hispanic-Mexican	0.399027			0.030533	
Asian-East Asia	0.64212			0.064851	
Home learning environment					0--6 (sum)
White-European		5.15076	1.097826	0.09783	
Black-Caribbean		4.445678	1.421203	0.259612	
Hispanic-Mexican		3.23684	1.464995	0.085067	
Asian-East Asia		4.991372	1.659355	0.172759	
Home learning activities					1--4 (scale)
White-European		2.832105	0.998422	0.081025	
Black-Caribbean		2.902223	0.784909	0.136335	
Hispanic-Mexican		2.862291	0.778411	0.031897	
Asian-East Asia		2.714859	1.163054	0.10088	
Helps with homework-yes					
White-European	0.933522			0.021253	
Black-Caribbean	0.975287			0.017349	
Hispanic-Mexican	0.84928			0.017817	
Asian-East Asia	0.826806			0.052382	
Parent-school communication					0-2 (sum)
White-European		1.692598	0.520926	0.034587	
Black-Caribbean		1.789421	0.456211	0.061006	
Hispanic-Mexican		1.616941	0.487632	0.027422	
Asian-East Asia		1.569326	0.804103	0.076584	
Parent expectations-college or more					
White-European	0.890499			0.026786	
Black-Caribbean	0.878882			0.04381	
Hispanic-Mexican	0.820479			0.019448	
Asian-East Asia	0.935065			0.026121	

Table 4

Correlation Matrix for Key Study Variables (N=909)

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Math																	
2. Reading	.712**																
3. Income	.276**	.349**															
4. Education	.397**	.441**	.485**														
5. Prestige	.194**	.234**	.332**	.474**													
6. English Proficiency	.160**	.245**	.354**	.509**	.384**												
7. Language Problem	-0.024	-.062	-.102**	-.182**	-.102**	-.125**											
8. Feel Unwelcome	-0.02	-.027	-.123**	-.184**	-.149**	-.311**	.070*										
9. School Selected	.079*	.130**	.188**	.198**	.078**	.117**	-.047	-.051									
10. Home learning Environment	.297*	.381**	.405**	.517**	.337**	.508**	-.073*	-.164**	.132**								
11. Home learning Activities	-.097**	-.091**	-.030	.025	.058	.094**	.014	-.049	-.008	.132**							
12. Homework Help	.067*	.132**	.123**	.169**	.136**	.275**	-.128**	-.045	.083*	.204**	.197**						
13. School Contact	.046	.020	.078*	.079*	.047	.105**	.018	-.056	.044	.095**	.070*	.018					
14. Expectations	.136**	.165**	.079*	.177*	.090**	.021	-.084*	.019	.064	.132**	.082*	.062	.020				
15. Gender-Male =1	.040	-.154**	-.084*	-.029	-.004	-.039	.044	-.025	-.035	-.043	-.021	.071*	.038	-.069*			
16. Length of Residence in U.S.	.042	.090**	.249**	.255**	.205**	.441**	-.059	-.199**	.059	.343**	.092**	.121**	.035	.024	-.010		
17. Married	.157**	.155**	.197**	.185**	.281**	-.045	-.099**	.044	.033	.192**	.029	.099**	.022	.071*	-.015	-.013	

Note. These Data come from the Early Childhood Longitudinal Study-Kindergarten cohort. Math and reading scores are taken from the 5th grade reading assessments, parent involvement variables from the 3rd grade parent interviews, and resources (3-8) and controls (length of residence and marrital status) from the 1st grade parent interviews.

* p< .05

** p< .01

Research Question 1: The Racial-ethnic Achievement Gap

The first aim of this study was to examine the racial achievement gap at fifth grade among children of immigrants. Specifically, this study sought to examine whether there is a racial achievement gap in reading and math between the White children of European immigrant parents and the Black children of Caribbean immigrant parents, Hispanic children of Mexican immigrant parents, and Asian children of East Asian immigrant parents. A series of one-way ANOVA analyses were utilized to evaluate mean racial-ethnic group differences in standardized math and reading scores followed by one-way ANCOVA analyses which took into account controls variables. All analyses were tested for significance at $p<.05$. I hypothesized that children of Caribbean and Hispanic immigrants would have lower mean scores in reading and math than children of European immigrants while children of East Asian immigrants would have higher scores than children of European immigrants.

In regards to math, an ANOVA test revealed a significant difference in math scores between racial-ethnic groups [$F(3, 905) = 70.48$, $p = .000$]. Planned linear contrasts revealed that White children of European immigrant parents scored significantly higher in math than Black children of Caribbean immigrant parents ($t = -5.29$, $p = .000$) and Hispanic children of Mexican immigrant parents ($t = -10.86$, $p = .000$) and scored significantly lower in math than Asian children of East Asian immigrant parents ($t = 3.06$, $p = .012$)[1].

[1] Although not the primary purpose of the study, A Tukey-Kramer post hoc test was implemented to look at pairwise comparisons between all groups while accounting for multiple comparisons by reducing Type I error and accounting for unequal sample sizes across groups. Tests revealed that Asian children also scored

ANCOVA results, controlling for gender, SES, parental length of residence in the US and parental marital status, indicated that racial-ethnic mean differences in math remained significant [F(7,799) = 36.86, p = .000]. Planned linear contrasts revealed the same pattern as the ANOVA, albeit with smaller mean differences. White children of European immigrant parents scored significantly higher in math than Black children of Caribbean immigrant parents (t = -3.59, p = .000) and Hispanic children of Mexican immigrant parents (t = -4.44, p = .000) and scored significantly lower in math than Asian children of East Asian immigrant parents (t= 2.52, p = .012)[2].

In regards to reading scores, an ANOVA test revealed that there was a significant difference in reading achievement scores between racial-ethnic groups [F(3, 905) = 85.79, p = .000]. Planned linear contrasts revealed that White children of European immigrant parents scored significantly higher in reading than Black children of Caribbean immigrant parents (t = -6.89, p = .000) and Hispanic children of Mexican immigrant parents (t = -13.73, p = .000) and did not differ in reading scores from Asian children of East Asian immigrant parents (t= .306, p = .760)[3].

A parallel ANCOVA test for reading was significant [F(7, 799) = 51.35, p=.000).Planned linear contrasts revealed the same pattern as the ANOVA, however, mean differences were reduced. White children of European immigrant parents scored

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higher in math than Black and Hispanic children, while Black and Hispanic children did not differ in math scores.

[2] The Tukey-Kramer post hoc test on adjusted means differed form ANCOVA contrasts in that math scores between Asian and White children were no longer significantly different

[3]Pairwise post-hoc comparisons revealed that Asian children also scored significantly higher in reading than Black and Hispanic children, while there were no significant differences in reading scores between Black and Hispanic children.

significantly higher in reading than Black children of Caribbean immigrant parents (t = -5.03, p = .000) and Hispanic children of Mexican immigrant parents (t = -8.05, p = .000) and did not differ in reading scores from Asian children of East Asian immigrant parents (t= -.632, p = .528).

In summary, ANOVA and ANCOVA results support hypotheses indicating that racial-ethnic group differences in math and reading achievement exist and can be partially accounted for by demographic variables, but also that significant group differences remain after controlling for these factors.

Resource Question 2: Resources and Barriers to Parent Involvement

Given evidence for a racial achievement gap between White children of immigrants and ethnic minority children of immigrants, the next set of analyses evaluated the hypothesis that race would have an effect on parent involvement, and that this effect would run through parental resources. Specifically, it was expected that generally lower levels of resources among Caribbean and Mexican parents (compared to European parents) would be related to lower levels of parent involvement across the six dimensions. Compared to European parents, Asian immigrant parents were predicted to have lower levels of school contact due to lower levels of English proficiency and greater perceived barriers (based on language). Parallel multiple mediation models were run to examine the effect of race on each dimension of parent involvement through parental resources, income, education, prestige and English proficiency, controlling for length of U.S. residence and marital status. Table 5 presents 95% bootstrapped confidence intervals for the total effect, total indirect effect, direct effect, and specific indirect effects for each

dimension of parent involvement. Models are labeled 1-6 for each dimension of parent involvement (school selection, HLE, HLA, homework help, school contact, and expectations respectively); under each numbered model, are the sub-models by race-ethnicity, compared to the omitted European group. Total, total indirect, direct, and specific effects of each individual model for each group comparison can be followed horizontally.

I now turn to each parent involvement model individually. For each model I discuss the initial total effect of race for each ethnic minority group compared to White-European immigrants on parent involvement (or group differences in parent involvement by race), which does not take into account the influence of the mediators. Next, I discuss the total indirect effect of race through the mediators as a set as well as any significant specific indirect effects. For models in which a significant total effect was found, I discuss the direct effect, which is the remaining independent relationship between race and parent involvement accounting for parental resources as mediators.

Model 1: School selection. When accounting for marital status and length of residence, the total effect of race on parental school selection for Caribbean parents compared to European parents was negative but non-significant. However, the total indirect effect of race on school selection through parental resources as a set—education, income, prestige, and English proficiency—and the specific indirect effect of race on school selection through income were significant and in the hypothesized negative direction. The significant indirect effect of income indicated that income contributed to the total indirect effect above and beyond education, prestige and English proficiency.

Lower education levels and lower income levels in particular, among Caribbean parents in turn decreased their likelihood of school selection for their children. The non-significant total effect was likely due to the positive (although non-significant) specific indirect effects of race through prestige and English proficiency (given that Caribbean parents had similarly high levels as European parents) which worked in opposition to the negative specific effects of education and income by increasing the likelihood of school selection for Caribbean parents.

The total effect of race on parental school selection for children of Mexican parents compared to European parents was significant. The total indirect effect of race on school selection through parental resources was also significant and in the hypothesized negative direction, with 47.8% of the total effect of race on selection mediated by parental resources. However, the specific indirect effect through prestige was positive. Mexican parents displayed lower levels of income, education, and English proficiency making them less likely to have choice in schools for their children compared to European parents, while lower prestige increased their likelihood of school selection. The specific indirect effect of race on school selection through income was also significant, indicating that it contributed to the total indirect effect above and beyond education, prestige, and English proficiency. The direct effect of race, or the effect of race on school selection independent of parental resources, was also significant; after accounting for lower levels of parental resources among Mexican parents, there remained a negative effect of race on school selection.

All effects were non-significant for East Asian parents compared to European parents, indicating no relationship between race and school selection for this group.

Model 2: Home learning environment. The total effect of race on HLE for Caribbean parents compared to European parents and the total indirect effect of race through parental resources were non-significant. However, the specific indirect effects through income, education, and English proficiency were significant. Caribbean parents were lower in education and income than European parents, which in turn decreased their mean number of academically stimulating items in the home. At the same time, Caribbean parents had similarly high levels of English proficiency as White parents, which served to increase their mean number of academically stimulating items. Thus, the influence of race on HLE for Caribbean parents seemed to work through opposing mechanisms which resulted in a non-significant total indirect effect and total effect.

There was a significant total effect of race on HLE for Mexican parents compared to European parents; Mexican parents had a lower mean number of academically stimulating items in the home than European parents. The total indirect effect through parental resources was significant and in the hypothesized negative direction with 48.8% of the total effect of race on HLE mediated by parental resources. Mexican parents' displayed lower levels of income, education, prestige, and English proficiency, and in turn, were lower in HLE than European parents. Significant specific indirect effects were also found for income, education, and English proficiency, indicating that each uniquely contributed to the total indirect effect. The direct effect of race was also significant, after

accounting for lower levels of parental resources, Mexican parents still had a lower mean number of stimulating items.

In regards to East Asian parents compared to European parents, the total effect of racial-ethnicity and the total indirect effect of racial-ethnicity through resources as a set were non-significant. However, the specific indirect effect through English proficiency was significant. East Asian parents reported lower levels of English proficiency than European parents, which in turn served to decrease their mean number of stimulating items. However, it is important to note that although the specific indirect effects through income, education, and prestige were non-significant, they were positive. Lower English proficiency among East Asian parents served to decrease HLE, while at the same time, higher levels of education, income, and prestige among East Asian parents served to increase HLE, leading to inconsistent mediation and non-significant total effect and total indirect effects through resources.

Model 3: Home-based learning activities. In regard to the effect of race on HLA for Caribbean parents compared to European parents, all effects were non-significant, indicating no relationship between race and HLA for this comparison.

Results for the effect of race on HLA through parental resources for Mexican parents revealed that the total and direct effects were significant while the total indirect effect and specific indirect effects were non-significant. In other words, Mexican immigrant parents engaged in HLA more frequently than European immigrant parents, however, this effect did not run through parental resources.

In regard to the effect of race on HLA for Asian parents compared to European parents, all effects were non-significant, indicating no relationship between race and school selection for this group.

Model 4: Homework help. The total effect of race on homework help for Caribbean parents compared to European parents was non-significant. The total indirect effect was also non-significant; however, the specific effect of race through English proficiency for Caribbean parents compared to European parents was significant. Caribbean parents were higher in English proficiency compared to European parents and in turn were more likely to help with homework. However, although non-significant, the specific indirect effects of income, education, and prestige, were negative which worked in opposition to the positive effect of English proficiency resulting in a non-significant total effect.

The total effect of race on homework help for Mexican parents compared to European parents was non-significant. However, the total indirect effect through parental resources and the specific indirect effect through English proficiency were significant. Mexican parents compared to European parents had lower levels of education, income, prestige, and English proficiency and in turn, were less likely to help with homework. The specific indirect effect of race through English proficiency contributed to the total indirect effect above and beyond the specific effects of education, income, and prestige. After accounting for resources, the direct independent effect of race on homework help was non-significant. Give that both the total and direct effects were non-significant,

results indicated that Mexican parents were less likely to help with homework only when their resources were low.

The total effect of race on homework help for Asian parents compared to European parents was non-significant. However, the total indirect effect of race through parental resources as a set and the specific indirect effect through English proficiency were significant and both negative. Although the total indirect effect of parental resources was negative, it is important to note that the specific indirect effects of race through education, income, and prestige were positive while the specific indirect effect of race through English proficiency was negative, meaning that the negative total indirect effect was solely driven by the unique influence of English proficiency. Despite higher levels of education, income, and prestige among Asian parents compared to European parents, which served to increase their likelihood to help with homework, lower English proficiency among Asian parents served to negate these positive effects by decreasing their likelihood to help with homework, resulting in no group differences in homework help. The total indirect effect however should be interpreted with caution given that the upper bound confidence interval was below .001.

Model 5: School contact. In regard to the effect of race on communication through parental resources, for both Caribbean and Hispanic parents compared to European parents, all effects were non-significant. There was no relationship between race and parental communication with the school for these two groups compared to the European group.

In regards to the effect of race on communication for East Asian parents compared to European parents, all effects were non-significant with the exception of the total effect of race on communication. East Asian parents engaged in lower levels of communication with their children's school than European parents; however, this effect did not run through English proficiency or perceiving language as a barrier to involvement.

Model 6: Expectations for college. The total effect of race on college expectation for Caribbean compared to European parents was non-significant. The total indirect effect through parental resources as a set was negative and significant. The specific indirect effects of race through education and English proficiency were also significant, indicating that they uniquely contributed to the total indirect effect. Caribbean parents were less educated and had similarly high levels of English proficient as European parents, which in turn lowered their likelihood to expect their children to complete a college degree. At the same time however, lower income served to increase their likelihood of college expectations, resulting in inconsistent mediation and a non-significant total effect.

In regards to Hispanic parents compared to European parents, the total effect of race on college expectation was significant, Hispanic parents were less likely to expect their children to complete a college degree or beyond compared to European parents. The total indirect effect of race through parental resources was non-significant; however, the specific indirect effects through education and English proficiency were significant indicating that education and English proficiency uniquely mediated the relationship

between race and college expectation, above and beyond the effects of income and prestige. These effects were inconsistent: lower education levels among Hispanic parents served to decrease their likelihood to expect their children to graduate from college, while at the same time, this group's lower English proficiency served to increase their likelihood to expect their children to complete college, likely resulting in the non-significant total indirect effect. The direct effect of race on college expectation was non-significant, indicating that when education and English proficiency were taken into account, Hispanic parents did not differ significantly from European parents in their expectations for college.

The total effect of race on college expectation through race for Asian parents was non-significant. However the total indirect effect through parental resources was significant and positive. High levels of education and prestige and lower levels of English proficiency among East Asian parents in turn increased the likelihood for this group to expect their children to graduate from college. The specific indirect effect through English proficiency was also significant, indicating that English proficiency contributed uniquely to the total indirect effect above and beyond the influence of other parental resources. The negative (although non-significant) specific indirect effect through income was inconsistent: high income levels among East Asian parents served to decrease the likelihood of college expectation. However, given that the overall total indirect effect was positive, lower income did not negate the positive indirect effects of education, prestige and English proficiency.

Table 5

95% Bootstraped Effects for the Indirect Effect of Race on Parent Involvement through Parental Resources

	Total		Total Indirect		Direct		Specific Indirect											
							Income		Education		Prestige		English Proficiency		Feel Unwelcome		Language Barrier	
Models	PE	CI	PE	CI	PE	CI	PE	CI	PE	CI	PE	CI	PE	CI	PE	CI	PE	CI
1: School Choice																		
Caribbean	-0.089	-.179, .000	-0.033	-.060, -.007	-0.056	-.145, .000	-0.026	-.050, -.001	-0.010	-.026, .006	0.001	-.004, .006	0.001	-.006, .008	--	--	--	--
Mexican	-0.250	.345, -.155	-0.120	-.189, -.050	-0.131	.243, -.018	-0.086	-.154, -.013	-0.040	-.106, .024	0.012	-.016, .039	-0.007	-.054, .041	--	--	--	--
East Asian	0.011	-.093, .114	0.003	-.04, .05	0.007	-.091, .106	0.001	-.035, .038	0.005	-.006, .016	0.000	-.006, .005	-0.002	-.019, .014	--	--	--	--
2: Home Learning Environment																		
Caribbean	-0.061	-.134, .012	-0.014	-.034, .006	-0.047	-.115, .026	-0.010	-.018, -.001	-0.019	-.033, -.006	0.000	-.004, .003	0.015	.005, .025	--	--	--	--
Mexican	-0.482	.542, -.422	-0.235	-.281, -.189	-0.247	.318, -.176	-0.032	-.057, -.008	-0.083	-.124, -.042	-0.008	-.026, .009	-0.112	-.150, -.073	--	--	--	--
East Asian	-0.008	-.056, .040	-0.023	-.054, .009	0.015	-.036, .066	0.001	-.011, .014	0.010	-.003, .022	0.001	-.003, .004	-0.034	-.052, -.017	--	--	--	--
3: Home Learning Activities																		
Black-Caribbean	0.067	-.009, .143	0.010	-.008, .029	0.057	-.019, .133	0.009	-.004, .023	-0.004	-.017, .01	-0.001	-.005, .004	0.006	-.001, .013	--	--	--	--
Hispanic-Mexican	0.096	.000, .191	-0.039	-.099, .02	36.000	.027, .243	0.031	-.01, .073	-0.017	-/073, .04	-0.013	.-.037, .011	-0.041	-.086, .003	--	--	--	--
Asian-East Asia	-0.051	-.113, .030	-0.012	-.034, .010	-0.040	-123, .043	-0.001	-.014, .012	0.001	-.006, .01	0.000	-.004, .006	-0.013	-.029, .002	--	--	--	--
4: Homework Help																		
Caribbean	0.110	-.013, .233	0.002	-.046, .050	0.108	-.015, .23	-0.015	-.049, .019	-0.008	-.033, .018	0.000	-.006, .006	0.025	.006, .044	--	--	--	--
Mexican	-0.09	-.297, .118	-0.284	-.389, -.179	0.194	-.019, .407	-0.051	-.166, .063	-0.036	-.145, .073	-0.001	-.046, .044	-0.196	-.289, -.102	--	--	--	--
East Asian	-0.060	-.216, .096	-0.054	-.108, -.000	-0.006	-.162, .150	0.001	-.028, .03	0.004	-.012, .02	0.000	-.007, .007	-0.060	-.094, -.025	--	--	--	--
5: School Contact																		
Caribbean	0.033	-.044, .109	0.006	-.023, .035	0.027	-.049, .103	-0.003	-.013, .006	-0.007	-.020, .007	0.000	-.003, .004	0.003	.003, .01	0.001	-.006, .009	0.011	-.011, .034
Mexican	-0.084	-.176, .007	-0.060	-.127, .007	-0.024	-.123, .077	-0.011	-.042, .020	-0.030	-.085, .026	0.003	-.022, .028	-0.025	-.072, .021	-0.016	-.052, .019	-0.060	-.015, .054
East Asian	-0.089	.174, -.004	-0.021	-.059, .015	-0.067	-.154, .020	0.000	-.007, .007	0.003	-.005, .012	0.000	-.004, .004	-0.008	-.024, .007	-0.013	-.041, .015	-0.004	-.021, .019
6: Expectations																		
Caribbean	-0.027	-.171, .11	-0.053	-.01, -.009	0.026	-.114, .166	0.006	-.021, .033	-0.043	-.075, -.011	-0.002	-.01, .006	-0.014	-.027, -.002	--	--	--	--
Mexican	-0.267	.426, -.108	-0.890	-.192, .015	0.178	-.360, .004	0.020	-.067, .106	-0.181	-.282, -.08	-0.027	-.066, .013	0.010	.03, .170	--	--	--	--
East Asian	0.067	-.127, .259	0.057	.015, .098	0.009	-.185, .203	0.001	-.018, .018	0.022	-.004, .049	0.001	-.009, .011	0.034	.006, .061	--	--	--	--

Note: All effects are comparative effects for each ethnic minority group compared to the omiited European group.

Specific indirect effects through feeling unwelcome and feeling that language was a barrier were included only for the school contact model.

95% bootstrapped confidence intervals (denoted as CI) were based on 5000 replications, upper and lower bound are deliniated by a comma and rounded to the 100th place. Intervals that do not contain zero imply significance.

Coeficients were unstandardized and rescaled in models including binary mediators of outocme. PE = point estimate.

Research Question 3: The Effect of Race on Achievement through Parent Involvement

Given evidence of variability in parent involvement levels between groups, this last set of analyses addressed the question of whether there is a relationship between race and achievement through parent involvement. In other words, the question here is, given the racial achievement gap among children of immigrants and varying levels of parent involvement between immigrant racial groups, do these differences in parent involvement either account for the gap in achievement? I hypothesized that varying levels of parent involvement between children of European immigrant parents and children of Caribbean, Hispanic, and Asian immigrant parents would partially mediate the gap in achievement between these groups.

I first address the question of whether parent involvement mediates the relationship between race and achievement at all before controlling for other demographic differences (only accounting for gender as it can serve as an alternative explanation). Next, I address whether the unique influence of race on achievement works through parent involvement when accounting for other demographic variables that are known to both vary by race and influence achievement. Controls were also subsequently added for prior achievement. Thus, parallel models were run, without controls and with controls, for math and reading, and repeated for each ethnic-minority group compared to the European group.

Table 6 presents 95% bootstrapped confidence intervals for the total effect, total indirect effect, direct effect, and specific indirect effects for math (model 1) and reading

(model 2) respectively. The table first presents each model controlling only for gender (1 and 2 a), then controlling for SES, marital status, and length of residence (1 and 2 b), and finally, adding controls for prior scores (1 and 2c).

Model 1: Math. Model 1.a looked at the relationship between race and math scores with the 6 dimensions of parent involvement as mediators without controls. For children of Caribbean immigrants compared to European immigrants, results revealed that as a set, parent involvement mediated the relationship between race and math achievement when comparing Black children of Caribbean immigrants to White children of European immigrants, accounting for 14% of the total effect. The specific indirect effect of HLE was also significant, indicating that HLE played a unique mediating role above and beyond other indicators of parent involvement. Children of Caribbean immigrants lived in homes with a lower number of cognitively stimulating items than children of European immigrants, and this difference significantly accounted for the lower achievement of Black children. Although the total effect was significantly reduced, this was by a small amount, suggesting that additional variables not tested here might explain math score differences between children of Caribbean and European immigrants. Model 1.b. evaluated whether the unique effect of race on math scores, accounting for SES, length of residence, and marital status (in addition to gender) ran through parent involvement. Results revealed a non-significant total indirect effect and non-significant specific effects, indicating that parent involvement did not account for the unique difference in math scores between children of Caribbean immigrants and children of European immigrants. Controlling for prior achievement, Children of Caribbean

immigrants did not have relative change in math scores compared to children of European immigrants (see model 1.c, under total effect).

Model 1.a comparing children of Mexican immigrants to children of European immigrants revealed a significant total indirect effect for parent involvement overall, accounting for 26% of the variance of the total effect, as well as significant specific effects for HLE and college expectations, indicating the unique role of HLE and expectations above other parent involvement indicators. Children of Mexican immigrants lived in homes with less stimulating items and had parents were less likely to expect them to complete college, and these differences significantly accounted for the gap in math scores between these groups. The direct effect was also significant, meaning although the total effect was significantly reduced, there was still an effect of race on math scores for children of Mexican immigrants. Results of Model 2.a. controlling for demographic variables revealed a non-significant total indirect effect and significant direct effect. The specific effect for HLA was statistically significant; however, the upper bound of the 95% bootstrap CI was very close to zero. These results indicated that parent involvement did not mediate the unique effect of race on achievement for these groups. Although children of European immigrants made relative gains in math compared to those of Mexican immigrants when controlling for prior scores, parent involvement did not account for these gains.

Model 1.a comparing children of Asian immigrants to children of European immigrants for the effect of race on math through parent involvement revealed a non-significant total indirect effect and non-significant specific effects for parent

involvement. Significant total and direct effects of race on math scores indicated that parent involvement did not mediate this relationship. Controlling for demographic variables in model 2.b also yielded non-significant total indirect and specific indirect effects. However, significant total and direct effects pointed to an association between race and math scores for children of Asian immigrants that was not mediated. Although children of East Asian immigrants made relative gains in math compared to those of European immigrants when controlling for prior scores, parent involvement did not account for these gains.

Model 2: Reading. Model 2.a for children of Caribbean immigrants evaluated the effect of race on reading scores through its effect on parent involvement as a set of variables and individually with other parent involvement variables in the model (again controlling only for gender). Results revealed a significant total indirect effect of race on reading scores through parent involvement for children of Caribbean immigrants (accounting for 17.5% of total effect) as well as a significant specific effect for HLE. The direct effect was also significant, indicating partial mediation. After adding controls for SES, parental length of residence, and marital status in Model 2.b, there was no longer a significant total indirect effect for parent involvement as a set or specific indirect effect for HLE, while the significant direct effect remained. Although children of European immigrants made relative gains in reading compared to those of Caribbean immigrants when controlling for prior scores (see model 2.c under total effect), parent involvement did not account for these gains.

Model 2.a for children of Mexican immigrants evaluated the effect of race on reading scores through its effect on parent involvement controlling for gender. Results revealed a significant total indirect effect of race on reading scores through parent involvement for children of Mexican immigrants (accounting for 34.3% of total effect) as well as significant specific effects for HLE, help with homework, and expectations for college. The direct effect was also significant, indicating partial mediation. Children of Mexican immigrant parents were lower in HLE, less likely to help with homework, and less likely to expect their children to complete a college, all of which were positively related to achievement, thus these differences in parent involvement, significantly accounted for the achievement gap between Hispanic and White children. After controlling for demographic variables in Model 2.b, there was a significant total indirect effect for parent involvement as a set and accounted for 19.4% of the unique effect of race on reading achievement. However, only HLE remained as a significant specific indirect effect while HLA emerged as a significant specific effect. The significant direct effect remained. Thus, when accounting for demographic variables, Mexican parents were lower in HLE and higher in HLA (which was negatively related to reading scores) and accounting for these differences significantly reduced the achievement gap in reading between these groups. Although children of European immigrants made relative gains in reading compared to those of Mexican immigrants when controlling for prior scores, parent involvement did not account for these gains.

Model 2.a comparing children of Asian immigrants to children of European immigrants for the effect of race on reading through parent involvement revealed non-

significant total, total indirect and direct effects. Although there was a statistically significant specific indirect effect for HLE, the upper bound of the 95% bootstrapped confidence interval was very close to zero and thus should not be interpreted. Controlling for demographic variables in model 2.b also yielded non-significant total indirect and specific indirect effects. Children of East Asian immigrants did not have relative change in reading scores compared to children of European immigrants.

Table 6

95% Bootstraped Effects for the Indirect Effects of Race on Math and Reading Scores through Parent Involvement

	Total		Total Indirect		Direct		Specific Indirect											
							School Choice		ome Learning Environme		Home Learning Activities		Homework Help		School Contact		Expectations	
Models	PE	CI	PE	CI	PE	CI	PE	CI	PE	CI	PE	CI	PE	CI	PE	CI	PE	CI
1. a. Math																		
Caribbean	-0.178	.246, -.109	-.025	-.046, -.005	-.153	-.221. -.085	0.002	-.005, .010	-.017	-.03, -.005	-.004	-.011, .003	.0001	-.007, .007	.0002	-.003, .003	-.007	-.019, .006
Mexican	-.404	.469, -.338	-.105	-.155, -.055	-.298	-.376, -.338	.005	-.010, .019	-.072	-.114, -.031	-.005	-.014, .004	-.008	-.030, .013	-.003	-.010, .004	-.021	-.040, -.002
East Asian	.103	.034, .173	-.004	-.026, .017	.107	.041, .174	-.0004	-.004, .003	-.006	-.019, .001	.004	-.004, .012	-.002	-.011, .007	-.003	-.010, .003	.003	-.013, .020
1. b. Math																		
Caribbean	-.127	.204, -.051	-.007	-.023, .009	-.120	-.195, -.045	.004	-.003, .012	-.001	-.006, .005	-.008	-.017, .001	-.003	-.012, .007	.0003	-.002, .003	-.0002	-.010, .009
Mexican	-.210	.299, -.122	-.033	-.067, .001	-.177	-.267, -.088	.008	-.004, .019	-.019	-.041, .003	-.015	-.030, -.001	-.001	-.011, .009	-.0006	-.004, .003	-.005	-.019, .009
East Asian	.009	.023, .159	.002	-.018, .021	.090	.022, .157	-.001	-.007, .005	-.001	-.005, .002	.004	-.004, .013	.001	-.008, .009	-.002	-.008, .005	.001	-.012, .015
1.c. Math																		
Caribbean	-.020	-.060, .020	-.005	-.016, .005	-.014	-.055, .026	.0006	-.002, .003	.0000	-.002, .002	-.001	-.004, .001	-.005	-.013, .003	.0002	-.001.001	.0000	-.003, .003
Mexican	-.051	.101, -.000	-.016	-.035, .002	-.034	-.087, .017	.001	-.005, .007	-.011	-.024, .001	-.002	-.007, .002	-.002	-.011, .007	-.0004	-.005, .004	-.0007	-.006, .004
East Asian	.058	.019, .097	-.0009	-.011, .009	.059	.022, .097	-.0002	-.002, .001	-.007	-.003, .001	.005	-.001, .002	.0005	-.006, .007	-.001	-.005, .002	.0002	-.004, .004
2.a. Reading																		
Caribbean	-.224	.294, -.154	-.039	-.065, -.013	-.185	-.250, -.119	-.001	-.009, .006	-.026	-.042, -.011	-.005	-.013, .004	.0005	-.015, .015	.000	-.002, .002	-.007	-.020, .006
Mexican	-.503	.567, -.440	-.173	-.222, -.123	-.331	-.405, -.257	-.003	-.017, .011	-.111	-.151, -.072	-.006	-.017, .004	-.029	-.055, -.003	-.0002	-.006, .006	-.023	-.041, -.004
East Asian	.001	-.067, .069	-.007	-.037, .022	.008	-.056, .072	.0002	-.003, .003	-.009	019, -.00004	.005	-.004, .014	-.007	-.027, .013	-.0002	-.006, .006	.003	-.014, .021
2.b. Reading																		
Caribbean	-.160	.234, -.086	.002	-.020, .025	-.162	-.234, -.090	.0007	-.005, .006	-.001	-.009, .007	-.011	-.022, .0004	.013	-.002, .029	-.0001	-.0002, .002	-.0003	-.010, .009
Mexican	-.267	.354, -.179	-.052	-.090, -.013	-.215	-.300, -.129	.001	-.008, .011	-.034	-.056, -.013	-.020	-.037, -.003	.006	-.015, .027	.0002	-.003, .004	-.005	-.019, .009
East Asian	-.019	-.085, .048	.0008	-.023, .025	-.020	-.084, .044	-.0002	-.004, .003	-.003	-.009, .003	-.003	-.006, .016	-.004	-.021, .014	.0007	-.005, .007	.001	-.012, .015
2.c. Reading																		
Caribbean	-.047	.089, -.005	-.002	-.011, .006	-.045	.086, -.003	-.002	-.006, .002	.0002	-.002, .003	-.0001	-.004, .001	.0009	-.003, .005	-.00007	-.001, .001	-.0001	-.003, .003
Mexican	-.070	.122, -.018	-.015	-.032, .002	-.055	.109, -.001	-.004	-.011, .002	-.008	-.020, .002	-.002	-.008, .002	.0003	-.004, .005	.0002	-.002, .002	.0004	-.004, .005
East Asian	.009	-.032, .052	.001	-.007, .010	.008	-.032, .050	.0007	-.002, .004	-.0005	-.002, .001	.0009	-.001, .003	-.0002	-.005, .004	.0009	-.002, .004	-.0003	-.005, .004

Note: All effects are comparative effects for each ethnic minority group compared to the omiited European group.

Model 1 is the indirect effect of race (for each ethnic minority group compared to the European group) on math scores; 1.a controls only for gender, 1.b adds demographic controls, 1.c. adds prior scores

Model 2 is the indirect effect of race (for each ethnic minority group compared to the European group) on reading scores; 2.a controls only for gender, 2.b adds demographic controls, 2.c. adds prior scores

95% bootstrapped confidence intervals (denoted as CI) were based on 5000 replications, upper and lower bound are deliniated by a comma and rounded to the 100th place. Numbers <.000 were rounded to the 1000th.

Intervals that do not contain zero imply significance.

Coeficients were unstandardized and rescaled due to the inclusion of binary mediators. PE = point estimate.

CHAPTER VI

DISCUSSION

The racial achievement gap in education is a long standing phenomenon in the United States, which has been found to emerge as early as preschool and to persist into high school and even college (Stiefel et al., 2007). Early academic success has been found to not only be linked to later academic success but also to various areas of developmental adjustment such as socio-emotional and behavioral well-being (Duncan et al., 2008). As the population of ethnic minority immigrants and their children continue to grow, it is important to examine heterogeneity within the immigrant experience as it pertains to educational attainment. Evidence from the scant literature evaluating achievement gaps among children of immigrants indicates that some groups are more disadvantaged than others (Crosnoe & Lopez Turley, 2011).

Importantly, research has shown that for the native population, racial-ethnic differences in achievement can be explained by group differences on such factors as parent education, income, and family structure, which are also highly related to academic achievement (Han & Palloni, 2009; Stiefel et al., 2007). Parent involvement has also emerged as a process that is influential in promoting the academic competence of children, and varying levels of parent involvement, particularly lower levels among some racial-ethnic minority populations, has emerged as potential contributing source of lower achievement among these children (Domina 2005; Fan & Chen, 2001; Fan, 2001; Jeynes,

2003; Lahaie, 2008; Lee & Bowen, 2006). When it comes to the academic achievement of children of immigrants, studies have focus on adolescents, comparing them to native White children or to co-ethnic native peers. However these methods neglect the importance of early achievement and early processes on later achievement and tend to over generalize the experience of immigrant children, overlooking potentially important racial-ethnic heterogeneity in academics within this population. Further, the few studies that have evaluated academic achievement among the young children of immigrants (Glick, & Hohmann-Marriott, 2007; Kao, 1999; Thomas, 2009) have focused on the influence of demographic variables as the contributing source, and for the most part have not evaluated the mechanisms such as parent involvement by which such variables exert their influence on academics.

To address these gaps in the literature, the present study examined the racial achievement gap in fifth grade math and reading standardized test scores between White children of immigrants and Black, Hispanic, and Asian children of immigrants. I hypothesized that children of European immigrants would have higher mean scores in reading and math than children of Caribbean and Mexican immigrants and lower mean scores than children of Asian immigrants and that these differences would persist after accounting for differences in demographic variables. Further, this study tested a multiple mediation model that evaluated the relative effect of race on parent involvement through its effect on parental resources. I hypothesized that racial-ethnic differences in parent involvement would primarily run through racial ethnic variance in parental resources to be involved, however a unique effect of race might persist due to omitted factors.

Specifically, race would be associated with parent involvement such that children of Caribbean, Hispanic, and Asian immigrants (only in the case of communication) would have parents who were generally less involved than children of European immigrants. Finally, the present study tested a multiple mediation model that evaluated the relative effect of child race on achievement through its effect on parent involvement. Additionally, hypothesized race differences in parent involvement were expected to explain some portion of the race differences in achievement, controlling for demographic factors.

The Racial-ethnic Achievement Gap between children of Immigrants

In general, results supported the hypothesized relationship between race and achievement. Consistent with the hypothesis, results indicated that children of Caribbean immigrants and children of Mexican immigrants scored lower in math and reading than children of European immigrants; group differences were more pronounced for reading than math. While children of East Asian immigrants did not significantly differ on reading scores from children of European immigrants, they scored significantly higher in math. Although accounting for gender, SES, parental marital status, and parental length of residence in the U.S. reduced the effect of race on achievement, differences remained. In general, results were consistent with previous findings among the native population that African American and Hispanic American children score lower on standardized tests of achievement than European American children, and that Asian American children tend to outperform all groups, particularly in math (Han & Palloni, 2009). Results are also

consistent with racial achievement gap patterns between children of Black, Hispanic, and Asian children when compared to native White children (Han, 2008; Crosnoe, 2006)[4]

Levels of Parent Involvement between Immigrants and the Impact of Parental Resources

Results of the effect of race-ethnicity on parent involvement through the effect of parental resources generally, controlling for parental marital status and length of residence, supported the study hypotheses. Racial-ethnic differences in parent involvement were found for all dimensions. Further, most of the effects of race on parent involvement ran through the effect of parental resources either as a set or uniquely through a specific resource, with the exception of home-based learning activities and home-school communication.

The importance of English proficiency. When analyzed in the full model with other resources, English proficiency was a prominent predictor of parent involvement, uniquely predicting home learning environment, help with homework, and college expectations. The effect of race on parent involvement (HLE, help, and expectations) through English proficiency was also a consistent unique specific indirect effect for all three ethnic minority groups, serving to increase involvement for Caribbean parents and decrease involvement for East Asian parents. Contrary to the hypothesis, however, higher

[4] Pairwise comparisons revealed that children of Caribbean immigrants and children of Mexican immigrants scored lower in math and reading than children of East Asian immigrants and Children of Caribbean immigrants did not differ in math and reading scores from children of Mexican immigrants. This is inconsistent with the few studies that have included children of Black immigrants which found that these children are more advantaged than children of Hispanic immigrants (Crosnoe, 2006). Given that the Black participants in this study were restricted to children of Caribbean immigrants, the higher scores in other studies could have been driven by the inclusion of children of African immigrants who tend to have parents with higher SES than Caribbean immigrants (Thomas, 2010).

English proficiency was related to a lower likelihood of the expectation for college completion. It is likely that English proficiency served as a proxy for level of assimilation. Thus, it could be that early arriving immigrants enter with high expectations for their children, but those who assimilate over time, as indicated by increased English proficiency, might develop more realistic expectations for their children as they become more familiar with the U.S. education system and realize that opportunities are not equally available to all racial-ethnic groups. It is important to note that length in the U.S was controlled in these models, thus, the unique influence of English proficiency on expectations was not simply a product of recent arrival, but possibly reflects the retention of an immigrant identity. Even in the case of school selection, in which English proficiency was not a unique influence, high levels among Caribbean immigrant parents served to negate the negative influence of having lower income and education compared to European immigrant parents, thus allowing them to navigate the school system and select a school of their liking despite limited resources.

The importance of income and education. Generally, the specific indirect effects of race on parent involvement through income and education were not as influential consistently across parent involvement dimensions as the specific indirect effect through English proficiency. Further, unique specific effects of income and education were not consistent across all ethnic group comparisons. However, similar to English proficiency, even when income and education were not unique indirect effects, they either served to negate or counteract other effects.

As for the relationship between the other parental resources and parental involvement, income was the only unique predictor of school selection, and was also a unique predictor of HLE (along with education and English proficiency) both in the hypothesized positive direction. The effects of race on school selection and HLE ran through income for Caribbean and Mexican parents but not for Asian parents. Education was a unique predictor of HLE, as well as a unique predictor of college expectations (along with English proficiency) both in the hypothesized positive direction. The effects of race on HLE and expectations ran through education for Caribbean and Mexican parents but not for East Asian parents.

Differences between European and Mexican immigrant parents. Differences in parent involvement were especially pronounced for Mexican parents compared to European parents. Mexican, compared to European parents were less likely to have made a choice about school attendance for their children, had less cognitively stimulating home learning environments, and were less likely to expect their children to complete a college degree. In general, the effect of race on parent involvement for Mexican parents compared to European parents was substantially mediated through lower levels of parental resources, particularly income, education, and English proficiency.

The effect of race on college expectations through English proficiency is noteworthy in that it was the only case in which lower levels of English proficiency served to increase their likelihood of college expectations relative to European immigrant parents whose higher English proficiency served to decrease their likelihood of college expectation. However, their lower mean level of education negated the positive influence

of English proficiency such that they had lower expectations than European parents. Given that Hispanic parents were more recently arriving than European parents, it is likely that their lower English proficiency served as an indicator of retention of their immigrant identity and thus the value of education for their children. However, their lower level of education as a group compared to European immigrants might make them less likely to view college attendance as a necessary path for their children, but worked in opposition to their lower levels of education which served to decrease expectations. Further, resources appear to completely mediate the effect of race on college expectations for Mexican parents compared to European parents.

An interesting finding was that although there was no initial difference in the likelihood to help with homework between European and Mexican immigrants, there was a significant indirect effect of race through English proficiency such that Mexican immigrants were lower in English proficiency and were thus less likely to help with homework; the indirect effects through income, education and prestige were consistent (lower resources leading to lowered likelihood to help). However, the direct effect, although non-significant, was positive, providing some evidence for a suppression effect such that Mexican immigrants were more likely to help with homework once accounting for their lower levels of resources, particularly English proficiency. Given that the total effect is equal to the total indirect effect plus the direct effect, it is likely that the opposite signs of these effects served to mask the total effect.

Mexican parents were also the only group that differed from European parents in the frequency of home-based learning activities (which was negatively related to

achievement), engaging in more frequent home-based learning activities with their children than European parents; this effect was not mediated by the resource variables accounted for in the present models. The only parent involvement dimension in which Mexican parents did not differ from European parents was in their level of communication with the school.

Differences between European and Caribbean immigrant parents. Caribbean immigrant parents did not differ overall in parent involvement compared to European immigrant parents. Yet, there was an indirect effect of race on school selection, HLE, homework help, and expectations through parental resources. However, race was associated with parent involvement through opposing mechanisms, thus leading to inconsistent mediation and non-significant group differences overall. Generally, lower income and education levels among Caribbean immigrant parents compared to European immigrant parents were associated with less parent involvement, while at the same time, a relatively high level of English proficiency served to counteract the indirect effects of income and education. The pattern for the indirect effect of race on college expectation through resources was somewhat different in that both lower levels of education among Caribbean immigrants and similarly high levels of English proficiency relative to European immigrants served to decrease their likelihood of college expectations. However, the indirect effects through income (lower for Caribbean and negatively related to expectations) and prestige (similar for Caribbean and positively related) were not unique; they served to counteract the effects of education and English proficiency by increasing the likelihood of college expectations. Although it is counterintuitive for

income to have a negative relationship with college expectations, it is important to note that the bivariate correlation between these variables was positive. Therefore, it is likely that at equal levels of education, prestige and English proficiency, parents with higher income

Differences between European and East Asian parents. As for East Asian immigrant parents, the only parent involvement dimension in which they differed from European immigrant parents was communication with school, and they were the only group to have significantly lower levels of communication than European immigrants. Although East Asian parents only differed from European parents in communication, there was an indirect effect of race on home learning environment, help with homework, and college expectation through resources. Similar to the results for Caribbean parents, the effect of race on parent involvement worked through opposing mechanisms, thus leading to inconsistent mediation and non-significant group differences. However, the pattern of associations was opposite to what was observed for Caribbean immigrant parents such that for Asian immigrant parents, lower English proficiency relative to European immigrants served to lower their likelihood to help with homework as well as lower mean number of stimulating items in the home, their high levels of income and education served to counteract the negative effect of English proficiency, resulting in equal levels of involvement.

In regards to parental expectations however, the lower level of English proficiency of East Asian parents relative to European parents increased their likelihood of college expectations while similarly high levels of income served to decrease the

likelihood of college expectations resulting in statistically equal likelihood of college expectation.

The present finding that East Asian immigrants were lower in communication than European immigrant parents This is consistent with studies that have found that as a group, Asian immigrants believe that it is not the place of parents to interfere at school, an attitude attributable to the structure of schooling in parts of Asia (Hoover-Dempsey & Sandler, 1995, 1997; Walker et al, 2010). This finding is also consistent with the results of Turney and Kao (2009) using the same dataset, which indicate that Asian immigrants had lower levels of involvement in school (operationalized by attendance at PTA meetings, school events, and volunteering) than White immigrants. However, whereas Turney and Kao found that limited English proficiency and a shorter length of residence in the U.S accounted for lower school involvement of Asian immigrants compared to White immigrants, the present results found that lower levels of communication for this group were not accounted for uniquely by English proficiency. It is important to note that non-significant indirect effects in relation to other indirect effects only speak to the ability of a mediator to uniquely account for variance in the outcome and does not necessarily mean that it does not mediate.

Although Mexican immigrant parents were more likely than European immigrant parents to report that language served as a barrier to being involved and both Mexican and Caribbean immigrant parents were more likely than European immigrant parents to report feeling unwelcome by their child's school, these variables were not related to level of communication. This was likely due to little variance in contact with the school in

third grade. On the other hand, for Caribbean immigrants, previous qualitative research has found that despite feeling discriminated against because of the color of their skin, they felt that discrimination did not impact them as negatively as it did their African American counterparts (Waters, 2001). Thus ethnic minority immigrants might be just as likely as European immigrants to open communication with their children's schools, despite feeling unwelcome.

The Racial-ethnic Achievement Gap among Children of Immigrants and the Mediating Effect of Parent Involvement

In general, results supported the hypothesis that the racial achievement gap between children of European immigrants and children of Mexican and Caribbean immigrants was partially mediated by parent involvement.

Gaps between Caribbean immigrants and European immigrants. Controlling only for gender, the effect of race on achievement for children of Caribbean immigrants compared to children of European immigrants was partially mediated by parent involvement overall and accounted for 14% of the variance in math and 17.5% of the variance in reading. The home learning environment played a unique role in both the effects of race on math and reading achievement. Accounting for the lower mean level of stimulating items in the homes of Caribbean immigrants uniquely reduced the achievement gap between these two groups. Group differences in parent involvement between Caribbean and European immigrants were completely accounted for by control and demographic factors; therefore, the unique effect of race on achievement was not mediated by parent involvement. Thus, for these two groups, parent involvement reduced

the gap associated with group differences in SES, but not differences in achievement was not associated with race-ethnicity above and beyond SES

Gaps between Mexican immigrants and European immigrants. Notably, parent involvement accounted for the most variance in achievement between children of Mexican immigrants and children of European immigrants, and more so for reading than for math. The effect of race on achievement for children of Mexican immigrants compared to those of European immigrants was partially mediated by parent involvement overall, which accounted for 26% of the variance in math and 34.3% of the variance in reading. HLE and expectations appear to play a unique mediating role in explaining race group differences in math and reading, and help with homework also uniquely mediated the effect of race on reading. After accounting for control and demographic variables, however, the parent involvement variables no longer mediated the gap in math achievement. On the other hand, parent involvement overall persisted to mediate the gap in reading achievement, accounting for 19.4% of the unique effect of race net of control and demographic characteristics. However, only HLE remained as a unique mediator net of demographic controls while the influence of race on achievement through expectations and homework were completely accounted for by demographic variables, due to the fact that Mexican immigrant parents did not differ in expectations from European parents net of socio-economic and language resources. Other studies have found that Hispanic immigrant parents may not be involved as directly in academic activities, but more so through the promotion of hard work and responsibility (Fuligni &Yoshikawa 2004, Kao, 2004). In addition to the promotion of these values, it might still be important for

Hispanic immigrant families to foster academic achievement, particularly in the development of reading skills, by promoting an environment of learning in the home. Accounting for prior achievement indicated that HLE did not account for the relative gains in reading scores from third to fifth grade made by White children relative to Hispanic children. It is likely that the home learning environment plays a bigger role improving cognitive development in the first few years of elementary school.

It is likely that parent involvement accounted for more variance in the gap in reading scores for both Black and Hispanic children of immigrants compared to White children of immigrants because the gap in reading was more pronounced than the gap in math in the first place. Further, several of the parent involvement variables are more literacy focused, such as HLE (which was a unique mediator across models) for reading and HLA.

Gaps between East Asian immigrants and European immigrants. The math achievement gap between children of East Asian immigrants and children of European immigrants was not mediated by parent involvement. This is consistent with studies that have found the effect of parent involvement on achievement for Asian children is smaller than for those of other ethnicities (Jeynes, 2003). Given that Asian children outperform other groups, factors such as higher SES, and high cultural expectations for achievement through peers and community members, might mitigate the need for direct parent involvement in the academic activities of Asian children.

Parent Involvement and the Achievement gap. The finding that parent involvement only explained some of the variance in achievement before controlling for

demographic controls is likely due in part to the unequal distribution of SES between racial-ethnic immigrant groups, as it is among racial-ethnic native groups, that can exert an influence on academics in a number of ways besides through parental practices. For example, economically disadvantaged ethnic minority groups may assimilate into the marginalized segments of society in which their children have little access to resourced schools, whereas White immigrants and their children have more access to the resources of the White middle-class.

The remaining unique effect of race on achievement—which was not accounted for at all by parent involvement for Black children of Caribbean immigrants compared to their White counterparts, and only marginally so for Hispanic children of Mexican immigrants—could be due to differences in peer groups and teacher influences. As they assimilate, second generation immigrant children begin to assume the ethnic identities of their co-ethnic peers, for Hispanic and Black children, this means joining peer groups that are often overrepresented in low academic tracks, and may experience low expectations from teachers. Previous studies with African American children have found that teachers generally have lower expectations for these students compared to other racial-ethnic groups, although culturally and academically different, Black immigrant children share skin tone with African American children, and given that second generation children likely also speak similarly to their African American peers, teachers might have similarly low expectations for this group.

Implications for Research and Practice

This study found that gaps in achievement were most pronounced between the White children of European immigrants and the Black children of Caribbean and Hispanic children of Mexican immigrants, while Black and Hispanic children were equally disadvantaged in their levels of academic achievement. Thus attention should be paid to both of these groups in research and in practice. Children of Black immigrants have been understudied in the child development literature in part due to the difficulty of researchers to acquire adequate samples given the small numbers of Black immigrants relative to Hispanic and Asian immigrant groups. Thus it would be helpful and important for organizations and research institutions that develop large public datasets to oversample Black immigrant children as they do for other smaller populations.

Lower mean numbers of cognitively stimulating items in the homes of Black and Hispanic children emerged in this study as a unique explanatory factor in their lower achievement compared to their White counterparts due uniquely to their lower income, and education (along with lower English proficiency for Hispanic parents). Thus, attempts at degreasing the gap between these groups should focus on improving the home learning environment for these families, possibly through services that would help with providing important items such as books, and computers. Further, educating parents on the importance of these items in the home might also prove to be a key factor in promoting environments of learning.

For Mexican immigrant parents, lower levels of homework help and a lower likelihood of college expectations also emerged as unique influential factors in

accounting for gaps in achievement. In regards to homework, schools that encourage bilingual learning could benefit Mexican immigrant families by better allowing parents the opportunity to help with their children's homework. As for expectations for college, lower English proficiency (possibly an indicator of retained ethnic identity) actually worked to promote expectations, although lower mean levels of education served to negate this positive effect for Mexican immigrants as a group. Thus, rather than encouraging full assimilation it might be important for children of Mexican immigrants, parents, as well as teachers and practitioners should encourage children to maintain a sense of ethnic identity and pride by celebrating culture both at home and in the classroom.

Importantly, although this study found that parent involvement did account for gaps in achievement between White and Ethnic minority immigrant children, involvement explained less than half of the gap in achievement and less than a quarter when accounting for controls and only in the case of the effect of race on reading achievement through HLE for Hispanic children. Thus, researchers and policy makers should equally emphasize the role of schools, teachers and peers in promoting achievement among ethnic minority immigrant children.

Strengths and Limitations

Interpretation of the present findings should be drawn bearing in mind some of the study limitations. First, small sample sizes for individual nationalities, particularly among the Black children of immigrants inhibited finer distinctions between groups. Given considerable heterogeneity within racial-ethnic groups, group characteristics found

in the present study may not be generalizable to specific national groups within a given ethnicity. Also, because of the particular subgroups used in this study, weights were not applied and thus inferences about national representation cannot be made. Additionally, the Caribbean sample was considerably smaller compared to the European sample thus non-significant group difference might have been due in part to low power. Further, most of the parent involvement variables used in this study were either dichotomous or did not have enough items to assess reliability. Further, given that these were not established measures, internal and external validity could not be assessed.

Despite its limitations, the present study has several strengths. First, looking within the immigrant population of young, mostly second generation children allowed for the analyses of contributing mechanisms that were particularly important for this population. Next, this study contributed to the parent involvement literature by analyzing whether the established gap in achievement could be accounted for varying levels of parent involvement which has also been found in the literature. Further, the multiple mediation design implemented in this study made it possible to determine which parental resources were most important in accounting for the differences in the various dimensions of parent involvement as well as which parent involvement variables were most important in explaining racial-ethnic achievement gaps.

Future Directions

There are a number of future directions given the findings of this research. First, the evaluation of the influence of race-ethnicity on parent involvement found that in many cases of parent involvement and for all racial-ethnic groups, opposing mechanisms

masked the total effects of race on parent involvement, indicating that there was considerable heterogeneity within groups. Within group analyses for each racial-ethnic sample would better allow for the analyses of how different resources interact in relation to parent involvement levels. Looking within Mexican immigrant families for example; at higher levels of education, lower parental English proficiency, might be related to higher expectations (and subsequently higher achievement) than at higher levels of English proficiency.

Further, given the importance of expectations and homework help for Mexican families and the importance of HLE for both Mexican and Caribbean families, future research should look at the specific mechanisms by which these dimensions of parent involvement impact achievement among children of immigrants.

Additionally, future research should evaluate the role of both teachers and parents in the same model to determine relative importance, thereby allowing schools and policy makers to best allocate their resources; for example, a model looking both at teacher and parent expectations as explanatory mechanisms in the racial achievement gap.

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