THE IDENTIFICATION AND PARTICIPATION OF LATINO STUDENTS IN ADVANCED MATHEMATICS COURSES

Myrna E. Blanchard

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APPROVED:

Miriam Ezzani, Major Professor
Dina Castro, Committee Member
Colleen Eddy, Committee Member
Ricardo González-Carriedo, Committee Member
James Laney, Chair of the Department of Teacher Education and Administration
Randy Bomer, Dean of the College of Education
Victor Prybutok, Dean of the Toulouse Graduate School

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Using a phenomenological approach, this qualitative study examined the perspectives of Latino parents and their involvement in the decision of their child to enroll in an advanced mathematics course in sixth grade. Since enrollment in Algebra I in high school is said to be a strong predictor of college attainment and with the growing number of Latino students across the nation, this study has the potential to help district and campus leaders establish whole-school systems for communicating with Latino parents to encourage their children to enroll in advanced mathematics courses at earlier grades. Participants in this study included four sixth-grade students enrolled in an advanced mathematics course, four enrolled in regular mathematics, their mother or father, two mathematics teachers, a school counselor, and two district administrators. Data analyzed included audio recordings of semi-structured interviews of each of the participants. The findings suggested that the district has proactively developed a systematic process of creating that includes six data points to create a student profile of students that will do well in advanced mathematics. This process is helping the district close the gap between total Latino school enrollment and the enrollment of Latino students in advanced mathematics. The findings also suggested that specific communication with parents about the importance of enrollment trajectories might influence the enrollment of students into advanced mathematics courses at earlier grades.

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TABLE OF CONTENTS

Page

LIST OF TABLES AND FIGURES

Page

Tables

Figures

CHAPTER 1

INTRODUCTION

The topic of Latino students and their academic success in U.S. schools is not new. It has been a topic of interest to many researchers over the past 15 years because of the steady increase of Latinos in the overall United States population. The increase has superseded the projections initially made by the United States Census Bureau that catapulted the topic both socially and politically (US Census Bureau, 2000; 2012). Following the published 2000 Census data, demographers projected that Latinos would become the largest students of color by the year 2050. However, a rapid increase in the Latino population from that time until the last Census data in 2010 has caused demographers to revise their projections, stating that Latinos will be the largest students of color by the year 2040, not 2050 as previously projected (NCES, 2009, 2012; United States Census Bureau, 1996, 2000).

The topic continues to take interest in the media, particularly during the last and most recent presidential election, when both political parties emphasized the influence of Latinos in the U.S. As the Latino population continues to grow at a rapid pace, especially in the south and southwest parts of the U.S., the discussion about the influence of Latinos continues to be a discussion point. The academic success of Latino students is of importance particularly at a time when their population is increasing rapidly. Policies affecting Latino students' learning opportunities, enrollment in advanced courses, and attainment must be continually evaluated for effectiveness.

With the drastic demographic shift in pre-K-12 schools and specifically the growing increase in the Latino population, researchers raise concerns about the disproportionate percentage of Latino students enrolling and obtaining a degree from universities (Carter &

Wilson, 2001; Oakes, 2005; NCES, 2014). Despite an increase in the total number of enrollments at degree-granting institutions in the United States, the National Center for Education Statistics (NCES) found that Latino students constituted less than 34% of the total enrollments from 2007-2013 (NCES, 2014). Alternatively, Whites accounted for 59% of the total enrollments during that same period (NCES, 2014). Even more concerning, only 15% of the 34% Latino students that were enrolled at degree-granting institutions obtained a degree as compared to White students, whose graduation rate was 66% (NCES, 2014).

In response to the low percentages of Latino students enrolling and attaining college degrees, focus has shifted to looking at the Pre-K-12 opportunity gap. Some researchers have attributed the gap to the alarmingly high dropout rate for this demographic group (Ream & Stanton-Salazar, 2007; Snyder & Dillow, 2010). Although a decrease was reported in the dropout rate of Latino students (34.3% in 1972 to 21% in 2007), the dropout rate remains higher than that of both White and African American students (Snyder & Dillow, 2010).

As a result of the disproportionality of students of color enrolled in and attaining a college education, the research focus has shifted to studies looking at the specific variables that may increase enrollment of students of color in college. Studies have reported that enrollment in Advanced Placement (AP) courses in high school are strong predictors for enrollment and performance in college; however, it has been shown that enrollment in Algebra I is the strongest predictor for enrollment and performance in college (Alexander & Cook, 1982; Duran, 1983; Eddy et al., 2015). "Viewed as the gateway to higher mathematics, postsecondary educational opportunities, and technically skilled jobs, algebra enrollment has been identified as a serious equity and civil rights issue" (Stein, Kaufman, Sherman, & Hillen, 2011, p. 454).

Despite studies that show socioeconomic and ethnicity are not predictors of enrollment,

there still remain gaps between ethnic groups (Shettle, et al., 2007). According to a US Department of Education for Civil Rights (2014) report, only 27% of African American and Latino students are enrolled in at least one advanced placement course in high school, even though they comprise over 50% of the school population nationwide. As recently as 2012, it was reported that White and Asian students were still overrepresented in higher track classes in high school while African American and Latino students were disproportionately overrepresented in lower track courses (Archbald, Glutting, & Qian, 2009; College Board, 2012). As a result, the continued gap and representation of minorities in lower track courses in high school has created de facto tracking for Latino students.

Researchers continue to probe into the disproportionality of students of color enrolled in advanced and dual credit mathematics courses and have suggested that schools must deliberately and pro-actively look at reasons why enrollment patterns have remained disproportionate along ethnic lines (Kao & Thompson, 2003; Rigile-Crumb & Grodsky, 2010). Since motivation theory suggests that adolescents tend to be more extrinsically motivated by social norms and parent expectations (Ryan & Deci, 2000), influential adults like a student's parent or family, teacher, counselor, or administrator may give us insight into the decisions made for enrollment in various courses.

Research studies on students of color have also offered *social capital* as a theoretical framework to explain the gaps found in enrollment of Latino students in concordance with such factors as motivation and parental involvement (Finders & Lewis, 1994; Garcia-Reid, 2007). Further exploration of *social capital* has led researchers to develop specific actions that are said to be utilized along socioeconomic lines, with middle class parents' behaviors including things such as assisting with homework or contacting the school (Lareau 2000, 2002; Lareau &

Calarco, 2012; Lareau and Horvat, 1999). However, other studies have suggested that Latino parents demonstrate involvement in varying ways (communicating with their children the value of education, for example) that are not necessarily valued by the traditional school systems they encounter (Garcia & Guerra, 2004; Guerra & Nelson, 2013).

Similarly, other studies are limited in addressing students and families of color often times because of a language barrier (Villenas & Deyhle, 1999; Villalpando & Solórzano, 2005). In other words, researchers have attributed the absence of perceived Latino parental involvement to deficit perspectives in schools, in that they do not value the same parental involvement actions that are found within Latino families (Guerra & Nelson, 2013; Valencia, 1997; Valenzuela, 1999). For this reason, researchers suggest that Latino families do in fact have social capital, but it is not the kind of social capital that is valued in the dominant narrative of schools (Stanton-Salazar, 2011; Wong & Hughes, 2006).

Problem Statement

Research has shown that Latino students are underrepresented in AP courses, mirroring their underrepresentation in college (Oakes, 2005; NCES, 2009). Additionally, several studies found enrollment in Algebra I courses in middle school to be a strong predictor for college enrollment and attainment (Alexander & Cook, 1982; Duran, 1983; Eddy et al., 2015). Much of the current research has been focused on the transition from eighth to ninth grade, since that period is a determining factor for enrollment in Algebra I in schools (Fong, Melguizo, & Prather, 2015; Harvard, 2013). Interestingly, researchers have further found that students that scored higher in their eighth-grade mathematics course most likely enrolled in an advanced mathematics course in ninth grade (Archbald & Farley-Ripple, 2012; Goldschmidt & Wang, 2003). While

some districts have focused their efforts on encouraging enrollment in advanced coursework at the middle school level, other researchers have argued that enrollment patterns begin much earlier in the elementary grades (Alexander & Cook, 1982; Archbald & Farley-Ripple, 2012; Chen & Kaplan, 2003; Goldschmidt & Wang, 2003).

Despite this, few studies have been conducted to look at the formative period between the transitions of elementary to middle school (fifth and sixth grades) where enrollment patterns are first established. For example, Riegle-Crumb and Grodsky (2010) conducted a study using data from the Educational Longitudinal Study of 2000 (ELS). The ELS 2000 provided the researchers of this study with nationally collected demographic, assessment, and survey data from high school sophomore students, their parents, and school administrators in 2002. The participants' data included follow up studies in 2004 as seniors, then again in 2006 two years after graduating from high school. The aim of their study was to determine if schools with a high proportion of students of color could explain the gap found between minority and majority populations taking advanced courses in mathematics. To do this, researchers used regression analysis to examine the gaps among racial/ethnic groups. The researchers found that White students constituted 55% of seniors that had completed one advanced mathematics course as compared to 48% of African American students and 37% of Latino students. Mathematics achievement gaps were most pronounced for Latino students in the advanced mathematics courses. Their findings also suggested that the course trajectory for advanced mathematics must start at earlier grades (Riegle-Crumb & Grodsky, 2010).

Research using quantitative methodology has sought to determine causal factors and predictability of enrollment patterns based on demographic variables (Storlie, Moreno, & Portman, 2014). Still, few studies have focused on exploring the perspectives that Latino parents

can offer as to why or why not their children enroll in advanced mathematics coursework at any point in their academic studies (Storlie, et al., 2014). While several studies have looked at motivation, parental involvement, and social capital (Garcia-Reid, 2007; Ryan & Deci, 2000), critics assert that these studies attempted to understand the gaps in enrollment from a deficit perspective (Finders & Lewis, 1994; Garcia & Guerra, 2004). This study aims to explore the problem by understanding why students enroll or not in advanced mathematics courses in sixth grade.

Purpose of the Study

The purpose of this qualitative study was to describe and understand the reasons why students enroll or do not enroll in advanced mathematics classes in sixth grade. Because enrollment patterns are established early in a student's academic plan and completion of advanced mathematics coursework strongly influences college enrollment and attainment, this study looked at the earlier transition period between fifth and sixth grade. This study aimed to describe and understand this through a phenomenological approach by analyzing interview data gathered from eight students, their parents, two mathematics teachers, a counselor, and two district administrators. Using this qualitative approach allowed the voices of the participants to bring meaning to a subject that had not been well researched or understood. This study explored the perspectives of the students and their parents in particular to better understand how and why decisions were made to enroll or not enroll in advanced mathematics courses in sixth grade. Perspectives on reasons for the opportunity gap for Latinos are often lost in that most of the research has been gained through quantitative methods (Storlie, Morena, & Portman, 2014). Perspectives are best understood when studies use a qualitative approach to shed light on the

"why" and '"how" (Creswell, 2006). The present study utilized concepts of cultural capital activation and funds of knowledge theories as a conceptual lens for understanding the influence parents and district personnel have in their advisory role for course enrollment of Latino students. These adult influences could help determine whether Latino students enroll in advanced mathematics courses in sixth grade. New perspectives and understandings in this area could help schools and, perhaps, districts seek intentional recruiting factors that have the potential of higher enrollment of Latino students in advanced mathematics courses.

Research Questions

1. What is the role of parents, students, teachers, counselors, and school administrators in enrollment decisions for mathematics courses?
2. Why are high achieving Latino students enrolling or not enrolling in advanced mathematics courses in sixth grade?
3. How are these efforts reflected in Lareau's (2002) model of *cultural capital activation* theory?
4. How are these efforts reflected in Gonzalez, Moll, and Amanti's (2005) model of *funds of knowledge* theory?

Theoretical Framework

This study utilized *cultural capital activation* and *funds of knowledge* as theoretical frameworks. Both were utilized to explore the role that parents of high-achieving Latino students took in their child's enrollment in advanced mathematics courses in sixth grade at the selected site. Both were also used to explore the role that district administrators, a counselor, and two math teachers had in their enrollment as well.

Lareau (2002) derived the concept of cultural capital activation from previous theoretical frameworks rooted in Bourdieu's cultural capital theory (1986) and Coleman's *social capital*

theory (1988). While both theories emerged around the same time, Coleman (1988) believed that social capital could be accessed by anyone, and described the norms, social networks, and relationships between adults and students that act as resources for specific behaviors and termed these: *emotional support* (resources arising from family relationships) and *educational guidance* (parents' knowledge and engagement or contact with school). On the other hand, Bourdieu (1986) espoused that elite groups used their knowledge of cultural capital to further promote their interests. Therefore, children inherently possessed the cultural capital determined by the social class of their parents. This in turn established certain attributes that a student possesses, such as language skills, cultural knowledge, and mannerisms.

Lareau (1987, 2012) concluded that having social capital alone would not necessarily lead to desired outcomes for parental involvement and took a more narrowed view of Bourdieu's *cultural capital* theory. Lareau (1987) studied parental involvement in terms of socioeconomics and found that middle-class children "learn to interact with social institutions (e.g., schools) in a way that teaches them that they have the ability to affect their standing and outcomes in such institutions but working and lower class children do not" (p. 82). In contrast, she found working-class and poor families tend to see themselves as less able to affect their positioning within social institutions and termed this *concerted cultivation*. Her research may be influential in explaining how families of different socioeconomic groups navigate cultural capital. That is, what do families do that positions them to affect their educational outcomes?

Cultural capital activation, a later extension of Lareau's concerted cultivation concept, helps to operationalize the specific actions that families take to increase their cultural capital in the school setting (Horvat, Weininger, & Lareau, 2003; Lareau 1987; Lareau & Calarco, 2012). For example, Lareau (1987) stated that:

> Middle class parents may activate cultural capital in the form of knowledge of school practices by lobbying school staff on behalf of their children if the child receives poor marks or is not placed in advanced courses. While working-class parents see themselves as powerless over educational institutions, middle class parents activate their cultural capital by actively shaping their children's outcomes within the school. (p. 323)

Lareau (2002) concluded that the active use of that capital (cultural capital activation) by specific actions, such as assisting their children with homework, having discussions with children about school, contacting the school about the progress of their child, participating in parent teacher organizations, and participating to some extent with helping their child prepare to take college entrance exams (Horvat et al., 2003). Similarly, Lareau and Calarco (2012) stated that the activation behaviors of parents to help their children in elementary years were distributed along class lines. Furthermore, the activation of cultural capital stemmed from a sense of entitlement the parent had to schooling and their role in accessing resources to assist their child at school (Lareau & Calarco, 2012).

While the previous studies mentioned give new insight for parental involvement, few studies have expanded activation behaviors to be studied within non-dominant populations (Goldenburg, 2014; Guerra & Nelson, 2013). Therefore, as social capital served as a framework for looking at the relationships of interest in this study, cultural capital activation served as one construct for exploring the specific behaviors of Latino families as it relates to their child's enrollment in advanced mathematics courses. Tables 1 and 2 summarize selected theories and studies in educational research that underlie the conceptual framework for this study.

Table 1

Selected Examples of Educational Research Using the Concept of Social Capital

Year	Author(s)	Title/source	Measurement of social capital
1988	Coleman	Social capital in the creation of human capital, *American Journal of Sociology Supplement*	*Emotional support* (resources arising from family relationships) and *educational guidance* (parents' knowledge and engagement or contact with school)
1994	Valenzuela & Dornbusch	Familism and social capital in the academic achievement of Mexican origin and Anglo adolescents, *Social Science Quarterly*	Practices of parents that have attained at least a high school education in the U.S.
1997	Stanton-Salazar	A social capital framework for understanding the socialization of racial minority children and youth, *Harvard Educational Review*	Access for immigrant and low-income youth to multiple resources beyond their families such as friends, teachers, counselors and other community members

Table 2

Selected Examples of Educational Research Using the Concept of Cultural Capital

Year	Author(s)	Title/source	Measurement of cultural capital
1986	Bourdieu	The forms of capital, *Handbook of Theory and Research for the Sociology of Education*	Parent class position determines the attributes (i.e. language skills, cultural knowledge, mannerisms) that students possess
2001	Lin	*Social Capital: A Theory of Social Structure and Action*, Cambridge University Press	Accessing social networks within groups that are already at a disadvantage
2002	Lareau	Invisible inequality: Social class and childrearing in African American families and white families, *American Sociological Review*	Parent conformity with dominant standards when interacting with school personnel
2012	Lareau & Calarco	Class, cultural capital, and institutions: The case of families and schools, *Facing Social Class: How Societal Rank Influences Interaction*	Activation behaviors of parents: homework assistance, discussions with child about school, contacting the school about child's progress, participating in parent teacher organizations, helping child to prepare for college entrance exams

The second construct used in this study is *funds of knowledge*. For Latino families, parent involvement practices and their specific funds of knowledge are absent from the literature. For example, strong family resiliency with an emphasis on education from the Latino perspective is termed as *educación*, but it is not included in much of the current literature (Borg, 2007; Delgado-Gaitan, 2007). *Educación* is something that is not easily translated into the English language. It goes beyond the English meaning of education to include a broader sense of family responsibility for "inculcating in children a sense of moral, social, and personal responsibility and serves as the foundation for all other learning" (Valenzuela, 1999, p. 23). Ellis et al. (2012) wrote that though there is an apparent growing Latino student population, little research exists on the "potential cultural assets and resilience that they can bring to the educational environment" (p. 34).

In his article, Yosso (2005) identified six *community cultural wealth* characteristics that are found in Latino families: aspirational, linguistic, familial, social, navigational, and resistant. One of the characteristics of social community cultural wealth mentioned by Yosso is the *respeto* or respect that Latinos have towards persons of power in their community. This is exemplified in Latinos' sense of respect for educators, but further exhibited in their reverence and emphasis on *educación* or education. Like Borg (2007) and Delgado-Gaitan (2007), Yosso explained educación as not merely education in Spanish, but a holistic reference to social norms for behavior in Latino families. Another is their sense of *simpatía* or sympathy, which is characterized as the desire Latinos have for harmony over discord (Ellis et al., 2012). While many of these characteristics are, absent from most literature, it is important to highlight that more understanding is needed when attempting to look at parental perspectives and involvement in today's public schools.

Taken together, the frameworks of *cultural capital activation* and *funds of knowledge* served to provide a lens from which to conceptualize parental involvement for this study. Specifically, the framework constructs allowed this study to be situated from a perspective that viewed Latino families as having a broad range of resources that they can activate in order to navigate unfamiliar and historically traditional educational systems. For Latino parents, Delgado-Gaitan (2007) wrote, this means that parents are actively engaged in understanding the school requirements, learning to access additional school resources, and sustain advocacy for their children throughout their schooling.

Significance of the Study

Delgado-Gaitan (2007) wrote that educators that "work collaboratively with Latino parents find that students perform better academically" (p. 17). Parents are capable of learning how to participate in their child's education, she wrote, making it essential that schools intentionally reach out to Latino parents. Since researchers link elementary and middle school enrollment patterns in mathematics to the academic achievement and subsequent educational attainment of students in high school and college, exploring the reasons why Latino students are not enrolling in advanced mathematics classes as compared to their peers is relevant to educators, parents, and students in finding or creating systems that will increase their level of attainment (Archbald & Farley-Ripple, 2012; Goldschmidt & Wang, 2003; Solórzano & Solórzano, 1995; Solórzano, Villalpando, & Oseguera, 2005). Being able to understand more in depth the perspectives of Latino students and their parents could give us a more compelling story as to the reasons and decisions about enrollment in advanced mathematics courses. The anticipated audience of this study are district leaders and policymakers seeking better ways to

provide equitable access for all of their students. Because of this understanding, district leaders and policymakers can establish system reform efforts that may encourage more high-achieving Latino students to enroll in advanced mathematics courses, especially at earlier grades.

Definition of Terms

- *Advanced Placement:* Advanced Placement (AP) is a program sponsored by the College Board through which high school students can earn college credit and advanced college placement. (USDE, 2014).
- *Advanced Placement qualifying score/passing:* According to the report by the USDE (2014), Advanced Placement qualifying score/passing constitutes a score of three or higher on an AP examination and is considered passing at most universities. This threshold is used in this paper as such.
- *Algebra I:* Algebra I is a course that includes the study of properties and operations of the real number system; evaluating rational algebraic expressions; solving and graphing first degree equations and inequalities; translating word problems into equations; operations with and factoring of polynomials; and solving simple quadratic equations (USDE, 2014).
- *Dual credit:* Dual credit is "a process through which a student may earn high school credit for successfully completing a college course that provides advanced academic instruction beyond, or in greater depth than, the Texas Essential Knowledge and Skills (TEKS) for a corresponding high school course. The "dual credit" earned is college credit and high school credit for one course" (Texas Education Agency).
- *Gifted and talented:* Gifted and talented (GT) programs are offered during regular school hours to students because of unusually high academic ability or aptitude or a specialized

talent or aptitude (USDE, 2014).

- *Latino:* The term Latino is used to represent the ethnicity of someone identified as Mexican-American, Puerto Rican, Spanish, Cuban, or other Spanish origins (Argentinian, Colombian, Dominican, Nicaraguan, Salvadoran, Spaniard, and so on (Hogan, 2014). The term is sometimes used synonymously or in place of the term *Hispanic* (Nieto, 1996; Solórzano & Ornelas, 2004). It is important to note that the terms Hispanic/Latino/Latina include those that have African indigenous or Spanish heritage roots. As such, there is a range of diversity within those that identify themselves or are identified as being Hispanic/Latino/Latina and is used to describe people from Mexico, Central America, South America, Puerto Rico, Cuba, Africa, Spain, and Latin America (Nieto, 1996). This study uses the term Latino to include all persons of the origins described above.

- *Middle school:* The public middle school in this study contains students in grades 6-8.

- *Pre-advanced Placement:* Pre-AP is the designation for classes that are taught in preparation and often as a prerequisite for Advanced Placement (AP) courses.

- *Retained:* A student is retained if he or she is not promoted to the next grade prior to the beginning of the following school year. Students are not considered retained if they can proceed to the next grade because they successfully completed a summer school program or for a similar reason. At the high school level, a student who has not accumulated enough credits to be classified as being in the next grade is considered retained (USDE, 2014).

- *Social capital:* Social capital (Bourdieu, 1986) as a theory refers to the resources that people draw upon outside of and within themselves to take action. Coleman (1990) expanded this theory to look specifically at students of color to help explain parental social capital in these contexts. The present study used social capital theory and specifically, capital activation theory

(Lareau, 1998) to situate the research questions and inform the methods of this study.

Organization of the Remaining Chapters

This chapter provided the context from which the research questions for this study were devised. First, I looked at the enrollment patterns of students in advanced mathematics courses in secondary settings as a predictor for college enrollment and attainment. Next, I briefly reviewed current literature regarding Latino student enrollment in these programs and found disproportionate percentages as compared to White students at both the national and state levels. I also reviewed research regarding how enrollment trajectories are determined at earlier grades before middle and high school. I then proceeded to find relevance for this study by citing the gap found in the literature surrounding elementary enrollment in advanced mathematics courses. What followed was a brief introduction of the research that attributes motivation for these enrollments at lower grades to their parents. While parental involvement has been widely studied in education, Latino parents are often absent from the literature, or they are measured against dominant culture values. As a result, levels of Latino parental involvement have often been viewed from a deficit perspective. Next, I shared the rationale for conducting this qualitative study, which is to gain new perspectives from Latino parents themselves on enrollment decisions for advanced mathematics courses. Key terms and definitions relevant to this study were delineated for the reader. Finally, an introduction of the methods for this study was shared. What follows in Chapter 2 is a critical evaluation of the current literature that integrates and synthesizes related studies while addressing the gap found in the literature; thus, the rationale for this study. It contains four sections related to the research questions of this study: (a) college readiness, (b) educational outcomes of Latinos, (c) equity and access for AP

program participation, (d) strengths and weaknesses of parental involvement theoretical frameworks, methodology, and research on Latinos. Chapter 3 details the specific research methods of this study regarding the participants, setting, data sources, procedures, and data analysis. Chapter 4 of this paper describes the results and analysis of the data. Finally, Chapter 5 includes discussion of the results and implications for further research, theory, and practice.

CHAPTER 2

LITERATURE REVIEW

It can be argued that education is the great leveling factor for youth in our society and that those that succeed in school will have a strong advantage towards financial and career attainment. Darling-Hammond (2010) wrote: At a time when children of color comprise a majority in most urban districts, and will be the majority in the nation as a whole by 2025, we face pernicious achievement gaps that fuel inequality, shortchanging our young people and our nation (p. 3).

Because we live in a global economy, it is imperative that our long-held approaches and responses continue to address and reverse these opportunity gaps. Researchers have studied enrollment patterns by race and ethnicity for over 40 years. However, the rapid growth of the Latino population has continued the interest in their educational outcomes (Archbald, Glutting, & Qian, 2009; Carter & Wilson, 2001; Duran, 1983). Accountability measures brought on by federal policies such as the No Child Left Behind (NCLB) Act of 2001 put pressure on states and districts to address and reduce achievement gaps for students of color. Meanwhile, national and state education policy makers and districts are searching for answers to understand how to address the opportunity gaps found within the various demographic groups.

To refine the scope of the review of literature for this study, and to systematically review what the literature theoretically suggests as factors that influence or affect the disproportionate rate of Latinos enrolled in advanced mathematics classes, peer-reviewed journal articles, books, and recent dissertations were initially included in a search query that contained the following search phrases: Latino, Algebra as predictor, achievement, middle school, and elementary. A subsequent search followed to include the following search terms: Latino, social capital, and

parental involvement.

In this chapter, I examine the organizational factors related to advanced course enrollment. I also examine existing outcomes for Latinos in advanced and dual credit mathematics course achievement and subsequent enrollment and attainment in college. In addition, I examine the existing models of advanced course selection, relative to their advantages and limitations. I also examine the theoretical frameworks found in previous parental involvement studies. In doing so, I provide a comprehensive theoretical framework and methodological approach to researching the underrepresentation of Latinos in advanced courses at middle schools and high schools. In the current study, the primary focus was to examine if cultural capital activation and funds of knowledge theories are useful in explaining the enrollment of Latino students in advanced mathematics courses in sixth grade. As such, the literature review was designed to provide context for the research purpose of this study, and in doing so, justified the rationale for conducting this study. The literature review contains the following four sections: (a) predictors of college enrollment and attainment, (b) educational outcomes of Latinos, (c) equity and access for advanced course participation, and (d) Latino parental involvement. The last section will focus on strengths and weaknesses of parental involvement theoretical frameworks, methodology, and research of Latinos parents and families. These sections form the structure for the review of the literature, as gaps in the existing literature which are discussed in each section that follows, and further situate the context for the present study's relevance and significance.

Predictors of College Enrollment and Attainment

Nationally, much attention has been garnered about career and college readiness due to

the increase in awareness of our global economy and the disciplines from which employers are seeking candidates when hiring their workforce (Darling-Hammond, 2010). In an attempt to align college coursework with PK-12 schooling, the USDE (United States Department of Education, 2011, 2014) has published several documents to support states in aligning their standards (not curriculum) for career and college readiness. In them, USDE states that a third of American students require remedial coursework upon entering colleges and universities, and that current attainment rates will not keep pace with the workforce needs that are projected in the U.S. The USDE has enacted mandates for states to develop their own instruction, assessment, and accountability systems that align with college and career readiness, and has allowed flexibility in the funding allocated from the No Child Left Behind Act of 2001.

The Texas Education Agency (TEA), the governing body over public and charter schools in Texas, uses the State of Texas Assessments of Academic Readiness (STAAR) exam to assess how students are performing in mastering the revised (2012) mathematics Texas Education and Knowledge Standards (TEKS). In response to college and career readiness mandates at the federal level, Texas adopted House Bill 3 during the 2012 legislative session. This integrated college readiness performance standards into its accountability system and required schools to increase the number of students performing at a college readiness level in order to graduate with an academic distinction rating (Texas Education Agency, 2012).

Advanced program courses have long been offered in schools as a way to accelerate the level of coursework and prepare students for college coursework. As a result, numerous studies show high predictability for increasing college enrollment and attainment following successful completion of advanced courses (Domina, 2014; Fong et al., 2015; Heck & Mahoe, 2010; Moore et al., 2010; Mullis, Rathge, & Mullis, 2003). The governing structure for AP course curriculum,

testing, and teacher training is the College Board, which offers a wide range of content area AP courses in mathematics, English, foreign languages, science, and social studies. In attempting to understand enrollment patterns for college and degree attainment, research has focused on the predictability of mathematics coursework trajectories in both middle school and high school as well as in various content areas (Mathews & Farmer, 2008; Mullis, et al., 2003). Mathews and Farmer (2008) stated:

> Algebra I is considered a gateway course to higher levels of study in mathematics and successful completion of algebra coursework in middle school has been shown to lead to improved performance on mathematics proficiency tests and increased understanding of advanced mathematics, as well as higher rates of enrollment in advanced coursework in high school and beyond. (p. 472)

Though schools differ in their course offerings somewhat nationwide, Stein et al. (2011) found that school policies regarding Algebra I enrollment fell into two types: selective and universal. Selective policies, they determined, were ones that contained a mechanism by which students had restrictions for enrolling in the course. Students in schools with selective policies for enrollment were less likely to be underprepared for later mathematics courses. Universal policies were deemed those that allow access of Algebra courses to all students in eighth or ninth grade. The researchers found that watered-down versions of Algebra I were sometimes apparent in courses in schools that adhered to universal enrollment policies. Furthermore, they stated:

> Although universal algebra policies reduce the possibility of prepared students being denied access to algebra, those policies have created another problem: more underprepared students enrolled in algebra classes. Moreover, an implicit assumption of policies or initiatives that encourage all students to take algebra is the benefit of taking algebra is universal, that is, students will achieve at high levels and/or have access to more advanced courses and careers as a direct result of taking algebra. (p. 483)

It is important to note that Stein et al. challenged the assumption that placing all students in Algebra I would lead to positive academic outcomes. They further suggested that positive outcomes were found only when schools intentionally put systems in place that will help students

remain successful under universal policies for enrollment.

Alternatively, Mathews and Farmer (2008) found that prior achievement in mathematics courses positively influenced later performance. Mathews and Farmer (2008) compiled data for their North Carolina study from two sources: the test scores of seventh grade students who were participating in above-level testing through a Duke University Talent Identification Program and their Algebra I test scores. The seventh grade, students also took the SAT test, a test used by colleges and universities for admission purposes. The researchers used the results of this test to measure students' mathematics ability, as well as the predictability of being identified in the gifted program with later enrollment in advanced math courses. Using regression analysis, the researchers found two variables to be statistically significant to later enrollment in advanced courses: gifted status (path coefficient=0.31) and Algebra I achievement (path coefficient=0.60). While Mathews and Farmer (2008) also concluded other various factors that contributed to why students achieve academically in mathematics (ability, motivation, academic self-concept, or self-efficacy), these are beyond the scope of this study. Still, Matthews and Farmer helped build a case for why mathematics course trajectories are important to later achievement in subsequent mathematics courses.

As a result of similar research validating the predictability of mathematics course trajectories (Mathews & Farmer (2008); Wang & Goldschmidt, 2003), more recent researchers like Archbald and Farley-Ripple (2012) have focused their studies on whether the predictability of course enrollment would hold true for different racial and ethnic groups. Additionally, there is concern regarding the preparation of historically marginalized groups in Algebra I. Eddy et al. (2015) wrote that gaps between different ethnic groups, while still concerning, can be attributed to the variation in rigor of Algebra I in schools. Like Stein et al., Eddy et al. warned against

universal policies for Algebra I enrollment in schools.

Archbald and Farley-Ripple (2012) situated their study in a medium-sized metropolitan school district in a mid-Atlantic state that included 707 students across three high schools. Student course placements served as the dependent variable in this study, while prior standardized test scores, prior mathematics grades, level of prior mathematics course in eighth grade, and demographics served as independent variables. Their study aligned with others (Kao & Thompson, 2003; Torres & Moran, 2014) and found that in most cases, there were "race, gender, and socioeconomic status (SES) inequities in access to higher-level courses when not accounting for previous performance; however, when measures of previous performance were introduced, these demographic inequalities were virtually erased" (Archbald & Farley-Ripple, 2012, p. 47). The researchers concluded that eighth grade mathematics grades were consistently a better predictor for subsequent mathematics placement.

Since course selection in mathematics tends to be sequential (Wang & Goldschmidt, 2003), it stands to reason that the findings from this study suggested that earlier course selection is very important to later course selection. In effect, the researchers of this study stated that students ended up in "de facto tracks- tracks that began not when they entered high school but before" (p. 48). Interestingly, the researchers found that state test scale scores were a less reliable predictor for enrollment in the advanced mathematics courses. If this finding holds true in other contexts, the common metric used by districts for identifying and encouraging enrollment (state assessment scores) in advanced mathematics courses is inherently flawed.

As discussed, Archbald and Farley-Ripple (2012) focused on the predictability of future student course placements for students enrolled in Algebra I. Their qualitative study looked at student demographics, student test data, and student transcripts to find if predictor variables

could explain the level of mathematics courses that students enrolled in at 10th grade as the curriculum became more differentiated (Archbald & Farley-Ripple, 2012). The researchers chose mathematics because it has a hierarchal structure to course enrollment (one course, Algebra I leads to the next sequential course, Geometry). Another key reason that the researchers chose mathematics was the large body of research that states that enrollment patterns in earlier mathematics courses lead to increased enrollment in advanced mathematics courses later on (Archbald & Farley-Ripple, 2012; Goldschmidt & Wang, 2003). Archbald and Farley-Ripple's (2012) study helped to further provide relevance for the present study in addressing the literature that states that enrollment trajectories are established in grades much earlier than high school.

Some districts have focused their efforts on encouraging enrollment in advanced coursework at the middle school level as a result of studies like those mentioned above. However, other researchers have argued that enrollment patterns begin much earlier in the elementary grades (Alexander & Cook, 1982; Archbald & Farley-Ripple, 2012; Chen & Kaplan, 2003; Goldschmidt & Wang, 2003). Despite this, few studies have been conducted to look at the formative period between the transitions from elementary to middle school (fifth and sixth grades) where enrollment patterns are typically first established.

Research that is more recent has begun to look at elementary enrollment patterns. For example, Bodovski and Youn (2011) studied early elementary course-taking patterns and academic behaviors in first grade to predict later reading and mathematics achievement in fifth grade. The sample (N=7,635) included students who had both completed first grade and had assessment scores in fifth grade. The researchers concluded that mastery of basic skills in mathematics in first grade was highly correlated to higher achievement scores later in fifth grade.

While this is not surprising, it leads to further inquiry as to what factors lead to the consequential tracking of students into low or high mathematics courses at such early grades.

Research on the predictability of students in gifted and talented programs to enroll in advanced coursework is also not conclusive (Peters & Engerrand, 2016). In part, because too many variables influence whether or not students identified as gifted and talented are more likely to enroll in advanced coursework (Borland, 2004). One of the largest barriers to this area of research, Bourland argues, is the multitude of instruments used nationally to identify students as gifted. Still, in a national report, Borland (2004) stated, "most pervasive instances of underrepresentation (*in gifted and talented programs*) have been associated with economic disadvantage and the racial and ethnic minority status" (p. 1). More recently, the U.S. Department of Education Office of Civil Rights (2014) confirmed the continued trend stating that White and Asian American students make up 70% as students enrolled in gifted and talented education program compared to 55% of white and Asian American enrollment in schools offering gifted and talented programs. Latino and African American students represent 26% of students enrolled and gifted and talented programs compared to 40% of Latino and African American student's enrollment in schools offering gifted and talented programs.

Educational Outcomes of Latinos

The interest in the academic achievements and progress of students of color also grew significantly in the last decade and a half with the reauthorization of the No Child Left Behind Act of (NCLB) in 2001. A key emphasis was closing achievement gaps between students of color and white students. Many researchers agree that this is the most significant point of discussion in education today (Riegle-Crumb & Grodsky, 2010; Solórzano, et al., 2005; Stanton-

Salazar, 2011). It is likely that the interest will continue to gain momentum as the Latino population continues to rapidly increase.

Nationally, statistics for the graduation and attainment rates of students of color are concerning. The National Center for Education Statistics (NCES) (2012) reported that high school graduation rates for Whites and Asians were at 87% and 89% respectively, while Latinos and African Americans rates came in at 75% and 71% respectively. Enrollment in advanced courses in high school also revealed gaps for students of color. While African American and Latino students comprised over 37% of the total population (US Census Bureau, 2009) and over 50% of school enrollment nationwide, only 27% are enrolled in at least one advanced course in high school (US Department of Education for Civil Rights, 2014).

In Texas, the statistics for students' high school graduation and college attainment show similar gaps for ethnic minorities (NCES, 2012). When comparing Texas' subgroups, Whites had a 93% high school graduation rate while Latinos had an 85% graduation rate, resulting in an 8% gap between them (NCES, 2012). Similarly, dropout rates in Texas indicated a 10% gap between Whites (15%) and Latinos (25%). While the gap in graduation rates at the high school level is concerning, college enrollment and attainment rates are even direr. According to NCES (2014), Latino students represented 34% of total students enrolled in higher education as compared to White students that represented 59%. Of the 34% Latinos enrolled, only 15% of those obtained a four-year degree as compared to a 66% graduation rate for Whites.

Additionally, Latinos are seeing the most increase in poverty levels nationwide (NCES, 2010). As such, there is a growing concern about the trends seen nationally along socioeconomic lines (Shettle et al., 2007). In 2010, NCES published findings stating that Latinos have been identified as the second largest group to be categorized as living in poverty. A similar

report stated that a higher percentage (27%) of Latino children were living in poverty than the national percentage (18%) (NCES, 2012). In schools, a student is classified as living in poverty if they qualify for free or reduced lunch. Alarmingly, NCES (2010) reported that the most diverse schools, with the highest concentrations of students of color, had the highest concentration of students eligible for free/reduced lunch. Knowing that the Latino population is growing rapidly, and that Latinos make up a large percentage of students on free or reduced lunch, concerns for equity and access to college enrollment and attainment for this demographic group is greatly compounded.

Naturally, since the Latino student population was 52% of the total population in Texas (Texas Education Agency, 2015), one would expect related comparable percentage of Latino students would be enrolled in advanced courses. However, in the most recent state performance report, the Texas Academic Performance Report (TAPR), Latinos accounted for only 16% of the total enrollment in advanced or dual credit courses (Texas Education Agency, 2015). As such, Texas is experiencing a 36%-point gap in the number of Latinos who are enrolled in Texas schools versus those who are enrolled in advanced or dual credit courses. Over a decade has passed since researchers Aguirre and Hernandez (2002) stated that there is no logical reason to expect that students of color representation in advanced or dual credit courses should not be in proportion to their overall representation in the student body. Trend data and statistical projections are important for school administrators both in public and private PK-16 institutions; however, they do not help us adequately understand why college attainment is so low among Latino students. Researchers state that to understand the underrepresentation of Latino students in postsecondary education, it is necessary to begin by examining their experiences and educational conditions as far back as elementary school (Oakes, 2005; Solórzano, 1995).

Though the number and percentage of Latino students enrolling in advanced courses has increased, the gap remains (College Board, 2012). Moreover, although there is an increase in equal access to the courses, Latino students are not achieving the same academic success in advanced courses (College Board, 2012; Kao & Thompson, 2003). This in turn lowers the educational opportunity to continue to close gaps in achievement for Latino students.

With the Latino population is continuing to rise in the U.S., it is imperative that we find solutions to increase their graduation and attainment rates; but it is also important to increase their enrollment in advanced coursework at earlier grades. To facilitate this understanding, researchers must explore better ways of understanding the phenomenon that can contribute to lower enrollment patterns in these courses. Archbald, Glutting, and Qian (2009) analyzed what influence grades, test scores, and race had on track placement in a comprehensive high school. The researchers studied eighth grade academic achievement variables along with race to find the predictability of either variable to determine their track placement in various levels of ninth grade English classes. The researchers determined that track placement decisions were "strongly determined by prior grades and test scores and that race did not have a statistically significant independent effect on track placement" (Archbald, et al., 2009, p. 78). Making this connection between trajectory patterns specifically, instead of race as a predictor, is important to the current study, as it helps to give credence to the research claim that enrollment patterns are more important to later trajectories than any other variable.

Equity and Access for Advanced Course Participation

Some researchers have attributed the underrepresentation of Latinos and other minorities in advanced coursework to be a result of long held discriminatory practices and beliefs that are

inherent in society as a whole (Bartlett & Garcia, 2011; Kao & Thompson, 2003; Solórzano & Ornelas, 2004). The researchers have concluded that the body of research has long been conducted under held systemic and whole-school practices and beliefs that have not significantly changed since the passage of key civil rights court cases. Historically, not until 1948, as a result of *Del Gado v. Bastrop Independent School District*, was segregation of Mexican Americans in Texas public schools declared illegal. Other key court cases such as *Brown vs. Board of Education* (1954), where schools were mandated to stop segregation in schools, and *Lau vs. Nichols* (1974), which mandated bilingual education for students who were limited in English proficiency, were both aimed at reversing discrimination in schools.

Critical race theory (CRT), a theoretical perspective used in research to help explain relationships of race, power, and racism, has contributed an alternate discourse as to why students of color have continued to be discriminated against, even after key court cases have been passed to end segregation practices (Delgado & Stefancic, 2012). Some researchers have applied theoretical assumptions derived from CRT to help explain more specifically why there are gaps of enrollment in college and advanced courses for students of color (Solórzano, et al., 2005). While the present study does not use CRT as a lens from which to analyze the perspectives of the participants in this study, CRT provides literature pertinent to how deficit perspectives have been developed regarding Latino student underrepresentation in advanced courses, universities, and subsequently in college attainment.

Looking at race, power, and racism, critical race theorists state that the voice of the majority population, that which is in power, is the voice and lens from which the majority of research has been conducted (Delgado & Stefancic, 2012; González-Carriedo, 2016). Critical race theory (CRT) further asserts that a dominant voice of the majority power intentionally

advances itself by viewing perspectives only through a narrowed White, middle class lens. This phenomenon, CRT researchers explain, have in effect caused us to continue the same narrative that helps Whites maintain social and political power in society, and as a result, is played out in our school system as well.

Oakes (2005) wrote that not much has changed in the way schools structure their curriculum, and unfortunately, the gap continues to increase between students who receive a challenging curriculum and those that receive a more rote and skills-based curriculum. In her 2005 study, Oakes found that teachers of advanced classes described their class goals with higher order thinking tasks and objectives than lower track classes. Alarmingly, the administrator, when asked about the reason for the difference in the lower track classes, stated that there was only so much they could do for "these kids" (Oakes, 2005, p. 89). The history of a differentiated curriculum became more apparent in the 1990s when students were assigned to vocational and non-vocational tracts often along racial and ethnic lines among different immigrant groups (Darling-Hammond, 2010). Darling-Hammond wrote that students "in the more advantaged tracks and programs not only encounter more curricular material; they are also typically asked to learn the material differently: they have opportunities to think, investigate, and create" (p. 55).

NCES (2010) reported another area of concern stating that students of color make up the majority of students that are considered to be of low socioeconomic status. Oakes' (2005) study argued that enrollment patterns for honors courses were indeed largely determined by race and socioeconomic status. She reported that of the Latino/Latino students that scored high (90^{th} percentile or above) on standardized tests, less than 50% would be encouraged to enroll in advanced courses, while White and Asian students had a 93% and 97% enrollment rate in advanced courses. She also reported that a common trend for enrollment in advanced courses

was to enroll students in the higher track that had been identified as gifted and talented (GT) in elementary grade levels. Looking at the demographic enrollment of the students nationwide in a report by the Office of Civil Rights in 2000, Darling-Hammond found that 74% of those identified as GT were White, while only 10% were Latino (Darling-Hammond, 2010).

A review of the literature on advanced course enrollment shows that there has been an increase in the number and percentage of Latino/Latino students enrolling in advanced courses in mathematics; yet, there remains a large gap along racial and ethnic lines. In their most recent report, the U.S. Department of Education Office for Civil Rights (OCR) noted several key findings regarding equity and access of the college readiness programs in high schools across the U.S. (USDE, 2014). As discussed, while many schools have increased the offerings of college and career readiness courses, not all schools have advanced mathematics courses. It is reported that the course offerings also diminish in schools with the highest percentage of African American and Latino students. OCR reported that no more than a quarter of these high schools offer Algebra II, and approximately only 10% offer calculus (USDE, 2014). So, why are some schools offering higher-level mathematics courses while others are not? A review of the literature (Contreras, 2005; Darling-Hammond, 2004; Heck & Mahoe, 2010) stated that it is a result of a lack of teacher skill and training that is needed for them to not only be competent to teach higher level mathematics courses, but to also be confident in doing so. The district must allocate targeted high-quality training that is focused on addressing a conceptual curriculum in advanced coursework than that of lower track courses and unfortunately, teacher turnover can contribute to more constraints faced by the district in delivering professional development to address these gaps.

Since it was first developed by sociologist and researcher Bourdieu (1986), *social capital theory* has been used as a framework of analysis in research disciplines such as sociology, education, economics, anthropology, finance, and political science to conceptualize parental involvement in schools (Liou & Chang, 2008). Social capital theory aims to explain how people utilize networks and resources to collectively advance themselves in their own communities and within society. According to Bourdieu (1986), some groups are advantaged because of the social class to which they belong, and the amount of social capital that a person can access is dependent on the amount of economic, cultural, and social capital that they possess.

In 1998, Coleman narrowed social capital theory to specific demographic groups and looked at African American children attending U.S. secondary schools, both public and private. Coleman was interested in explaining the parents' social relationships that helped to increase their children's academic performance. His study in particular focused on the academic performance of African American children, and found that race was not a factor for achieving a high level of social capital. His findings (1998) gave new perspectives to the theory of social capital that went beyond Bourdieu's (1986) initial focus, which was distinguishing social capital specifically, from economic and cultural capital. Cultural capital can be described a system of attributes such as language skills, cultural knowledge, and mannerisms that a parent activates that in turn defines their class status (Bourdieu, 1986).

Coleman (1998) further stated that social capital existed in the presence of social networks that sustain obligations, expectations, trustworthiness, and norms. Trustworthiness, further emphasized to the concept of social capital in this context, refers to the trust between a parent and child comment and when high, trust between parent and child increases a child's

sense of obligation to fulfill their parent's expectations (Coleman, 1998). Coleman (1988) referred to schools as an enclosed network where parents develop relationships that allow them to gain knowledge about shared norms in their community. This study helped to narrow social capital theory to include specific behaviors or actions that helped facilitate higher levels of social capital. In other words, people interact in social relationships with others in order to promote certain outcomes.

At home, cultural capital refers to the relationship that students have with their parents (Coleman, 1986). In schools, parents demonstrate cultural capital by forming relationships with school personnel and teachers, for example, as well as advocating by serving on parent and teacher organizations such as the Parent Teacher Association (PTA) (Coleman, 1986). Additionally, parents directly influence interactions they have with their children at home about learning and school in general. According to Coleman (1986), the middle and upper classes possess the most valued forms of cultural capital. Later, researchers in education applied both Bourdieu's (1986) theory of social capital and Coleman's theory of cultural capital to education attempting to "understand the difficulties faced by the minority" (Liou & Chang, 2008, p. 102). In conceptualizing both theories to students of color, Liou and Chang (2008) stated that social capital then is a mechanism that the dominant classes use in order to maintain its dominant position.

Researchers have since further applied social capital theory to help understand what specific behaviors increase the level of social capital that a person possesses or activates (Cheadle & Amato, 2011). Family involvement at school has been shown to provide parents with social capital by allowing them to meet with other parents and develop collaborations with teachers that help their child succeed (Lareau, 1996). While the research has shown strong

evidence that higher levels of parental involvement leads to higher levels of achievement for students, it has also been shown that parental expectations are a key factor in increasing achievement levels even more so than just involvement alone (Finders & Lewis, 1994).

While enrollment patterns have been linked to emergent demographic trends, another area of fruitful research includes the involvement of Latino parents at schools. The interest in Latino enrollment patterns have led researchers to directly apply theories of parental *social capital* as a possible explanation for the difference in enrollment and attainment patterns for Latino students (Borg, 2010; Garcia-Reid, 2007). According to Garcia-Reid (2007), social capital consists of the "resources that reside within human relationships that help to promote positive outcomes" and can include valuable forms of interpersonal assistance (p. 167). A possible theory could be that Latino families emphasize characteristics that contain high levels of social capital (such as resilience), but they are not attributes that are valued in schools (Bartlett & Garcia, 2011; Valenzuela, 1999).

Stanton-Salazar (1997) first studied Latino parental involvement using social capital theory to analyze underlying institutional and ideological forces that made access to social capital difficult for students of color and their parents. Later, Stanton-Salazar (2003) provided new perspectives on how adolescents overcome institutional and ideological barriers by studying the social networks of 145 Mexican origin high school students with working-class immigrant parents. Based on these studies, researchers such as Guerra and Nelson (2013) have challenged traditional definitions of parental involvement and have expanded the definition to find other parental involvement categories that are evident specifically in Latino parents and families. For example, some researchers have stated that Latino families view education, or *educación*, as a holistic integration that includes both academic and social proficiency (Bartlett & Garcia, 2011;

Valenzuela, 1999). In the Latino families of these studies (Guerra and Nelson, 2013; Valenzuela, 1999), parents and families were found to encourage and discuss the importance of educación at home with their children.

Some other socio-cultural perspectives may also explain the underrepresentation of Latino students in advanced mathematics courses (Valenzuela, 1997; Villalpando & Solórzano, 2005; Villenas & Deyhle, 1999). In a study conducted by Pong, Hao, and Gardner, (2005), the researchers investigated parenting styles and social capital by looking at specific behaviors in relationship to parental involvement, intergenerational closure, expectation, and trust. They studied three generations of Asian students and three generations of Latino students and compared them to native born third generation white students using survey data collected from seventh through 12th graders. Third generation students in this study were those that had been born in the U.S. and had native-born parents.

The researchers of this study (Pong, et al., 2005) stated that most of the research on the impact of parenting practices on children's academic achievement has been focused mostly on Whites or all racial groups combined; thus, the need for this study to look at specific ethnic subgroups to understand if there are differences that can explain the gaps found in their achievement. The researchers used three surveys to conduct their study: in-school survey, in-home adolescent survey, and in-home adult survey. Their sample size included 17,996 adolescents in 130 schools. Descriptive findings showed that Latino students: made up more of the economically disadvantaged, were more likely to have less educated parents, and more likely to have two parents present in the home. Interestingly, this study found Latino students achieved upward mobility in terms of socioeconomic status in each subsequent generation but declined academically as the generations increased. In other words, second and third generation Latino

students experienced an academic performance decline in comparison to first generation Latino students.

Since advanced courses have been shown to lead to better high school graduation rates (Long, Conger, & Iatarola, 2012) and college attainment (Adelman, 2006; Cabrera & La Nasa, 2001; Long et al., 2012), researchers are also studying parental involvement in terms of social and cultural capital in an attempt to better understand what factors lead students to enroll in advanced coursework (Borg, 2010). Borg conducted a qualitative study in 2010 to identify and describe the reasons why high achieving Latino students, (*n*=28) from four Texas high schools, did not enroll in advanced courses. Her sample included 12th grade students who participated in focus groups and semi-structured interviews. She concluded that four themes guided students' decisions to enroll in advanced coursework: educational work ethic (commitment, time management, grades earned), relationships (with parents, teachers, peers, counselors and other family members), course placement (past and current), and future (college/postsecondary education, jobs).

Borg (2010) found that the 12th grade students in the study reported educational work ethic as the biggest reason for deciding not to enroll in advanced coursework. Relationships followed in frequency, with teachers being the most common relationships mentioned regarding school personnel that helped influence their decision to not enroll. While her study gave us information about 12th grade high-achieving Latino students not enrolling in advanced coursework, entering sixth grade students reported a different reason with more frequency. In addition, the relationship most important in their decisions to not enroll has not been studied at sixth grade. It is possible that parents or counselors will have a more important advisory role in a student's decision at earlier grades.

To further understand the disproportionality in enrollment patterns in advanced classes, Borg (2010) interviewed students about their decisions for not enrolling in advanced coursework in high school, and found that the underrepresentation of Latino students in advanced courses was attributed to their lack of preparation for several reasons. Her study found that Latino students were not advised to continue in earlier advanced classes, lacked work ethic for completing advanced coursework, and lacked consistent relationships with teachers and counselors who had the most reliable information regarding college preparation. This finding was in congruence with current literature that states the importance of the counselor in giving information to students about college enrollment (McKillip, Rawls, & Barry, 2012; Schmidt, Hardinge, & Rokutani, 2012).

Concerted Cultivation

Just as social capital has been studied in the context of student enrollment in advanced coursework (Borg, 2010); it is also studied in the context of parental involvement. Expanding on Bourdieu's (1986) theory of social capital and Coleman's (1988) theory of cultural capital, Horvat, Weininger, and Lareau, (2003) and Lareau (2000, 2002) argued that middle-class parents engage social advantages more often. Furthermore, these social advantages are based on practices that they share with professionals in the school system. As a result, Lareau (2002) argued that working and lower-class parents do not operate with the necessary cultural capital to effectively negotiate within the education system. Lareau's studies (1987, 2002) asserted that social class, more than other parental involvement behaviors, determines the amount of social capital that is activated by the parent.

Concerted cultivation has been suggested as a framework to explain the specific

behaviors that middle-class parents activate, how those behaviors differ because of their class, and if those behaviors have an impact on their child's academic performance (Lareau, 2000; 2002). Lareau (2002) studied ethnographic data that was completed between 1989-1990 (interviews and observations) on two demographic groups: White and African American children, ages 8 to 10 and their families. The purpose of the study was to show the effects of social class on interactions inside the home. First, Lareau grouped the families into categories by social class and race, and then she selected every third child on the list to send parental participation letters home asking for the mother and father to participate in separate interviews. The final sample for Phase I of the data collection included 16 White and 16 African American students for a total sample of 32 students and their parents.

Phase II of the data collection included 88 students and consisted of observations at two school sites (Midwest and Northeast) during the months of September 1992 and January 1994 were analyzed. Both sites were chosen since they had over three-quarters of their student population qualified for free lunch. Following the observations, she interviewed teachers and parents who described the school in "positive terms" (p. 750).

Phase Three of data collection included home observations of 12 children and their families in the Northeast that had been interviewed previously. The research team in this study conducted 20 home visits to each home, and its purpose was to "develop an intensive, realistic portrait of family life" (Lareau 2002, p. 752). The researchers made observations of the parent interactions with other adults that were a part of their children's lives and included interactions that the parents had during parent and teacher conferences. Lareau concluded from this study four dimensions of *concerted cultivation:*

1. Organization of daily life
2. The use of language

3. Social connections
4. Interactions in institutions (pp. 761-766)

Lareau (2002) described organization of daily life by activities that are orchestrated by adults such as leisure or extracurricular activities. In this study, she found that children in middle-class families had more formal and informal activities organized by adults than working- or lower-class families. In addition, middle class families tended to limit more television and video games than working- and lower-class parents. The use of language refers to the frequency and content of the linguistic exchanges that families have with their children. Lareau (2002) found that middleclass parents' language use had more patterns of reasoning and accommodation. Social connections refer to the family and peer interactions that students engaged in and relied on for support. Middle-class families had less contact with family supports than working- or lower-class families in this study. Finally, interactions in institutions referred to the content and extent that families had contact with the child's school. Lareau (2002) found that middle-class families did not exhibit intimidation or confusion that working- and lower-class families exhibited.

Alternatively, Cheadle and Amato (2011) used Lareau's theoretical framework of concerted cultivation in their study in order to combine both qualitative and quantitative methodologies to test other constructs that may also correlate with parenting practices such as family size, non-English language use in the home, and immigration status. The authors described the dimensions of the theory to include the different ways that parents scheduled their children's time outside of school (organization of daily life). The use of language as dimension included how parents interacted with educational professionals as well as how parents speak to, teach, and engage academically with their children, for example. Social connections included networks both within and outside of school, often those found within shared extracurricular

activities. Finally, interventions in institutions involved how parents advocate for their children when they do not necessarily agree with school officials regarding their child's academic success.

Differing from previous studies such as Lareau's (2003), which only studied White and African American students, Cheadle and Amato (2011) explored African American, Latino, Asian, and other race/ethnicity groups using concerted cultivation as a framework. In their study, Cheadle and Amato (2011) used data from the Early Childhood Longitudinal Study (ECLS-K) of 1998-1999, when students were in kindergarten, and when they were in third grade. The ECLS-K is a nationally representative study administered by the National Center for Education Statistics. The ECLS-K is designed to study children's school experiences starting at kindergarten and continuing throughout their schooling. Information for this data set is gathered from children, n=21,260, their families, n=14,939.

The researchers measured parental participation in this study by applying a confirmatory factor analysis to their sample, using concerted cultivation as a latent construct and specifying the underlying model from which to check against the covariance structure of items (Cheadle & Amato, 2011). Parental participation was based on whether the parent attended an open house at the school, a parent-teacher organization meeting, a parent-teacher conference, or a class event. Parental participation was also measured based on if the parent volunteered or helped with fundraising at the school. The intent was to measure items that took place outside of school hours. Parent or family SES was measured based on parental occupation, education, and income, and the researchers sought to determine if concerted cultivation varied with SES.

The researchers of this study found that SES alone explained nearly 50% of the variance in concerted cultivation (Cheadle & Amato, 2011). The researchers also sought to assess the

extent to which race or ethnicity differences in concerted cultivation persist while controlling for SES. In addition, contrary to Lareau's (2003) study, the researchers found that race/ethnicity was a strong predictor for the differences in concerted cultivation. Another key goal of the study was to examine concerted cultivation levels for Latinos and Asians, since Lareau's (2003) analysis did not include these subgroups. The researchers found that concerted cultivation was highest among White English-speaking parents, as aligning with Lareau's initial study. Finally, the last goal of the study was to "incorporate other potentially important family and background characteristics that may be linked with the practice of concerted cultivation" such as parents who did not speak English (Cheadle & Amato, 2007, p. 700).

Contrary to prior research on social capital, Lareau (2000) concluded that having social capital alone would not necessarily lead to desired outcomes for parental involvement. Lareau developed a framework for measuring the active use of social capital (concerted cultivation) by looking at the specific actions that parents or families take, such as assisting their children with homework, having discussions with children about school, contacting the school about the progress of their child, participating in parent-teacher organizations, and helping their child prepare to take college entrance exams (Horvat, Weininger, & Lareau, 2003). Two forms of concerted cultivation (participation and activation) emerged through these studies (Merolla & Jackson, 2014). Almost 10 years following Lareau's first study in 2003, Lareau and Calarco, (2012) stated that the activation behaviors of parents to help their children in elementary years were still distributed along class lines.

Cultural Capital Activation

While Lareau and Calarco (2012) provided new insight for parental involvement, few

studies have expanded activation behaviors within non-dominant populations (Goldenburg, 2014; Guerra & Nelson, 2013). *Cultural capital activation* in particular helps to operationalize the specific actions that families take to increase their cultural capital in the school setting (Horvat, Weininger, & Lareau, 2003; Lareau 1997). For example, Horvat, Weininger & Lareau (2003) stated:

> Middle class parents may activate cultural capital in the form of knowledge of school practices by lobbying school staff on behalf of their children if the child receives poor marks or is not placed in advanced courses. While working-class parents see themselves as powerless over educational institutions, middle class parents activate their cultural capital by actively shaping their children's outcomes within the school. (p. 323)

Furthermore, the activation of cultural capital stemmed from a sense of entitlement the parent had to schooling and their role in accessing resources to assist their child at school (Lareau & Calarco, 2012). Merolla and Jackson (2014) analyzed previous studies using nationally representative data, such as the ECLS (2000), since the students have not differentiated the races by SES. For example, they failed to differentiate between African American and white middle-class students from African American and white low-income students. The previous studies grouped all middle-class students together and all lower-class students together in their analysis.

Merolla and Jackson (2014) used survey data from the ELS (2002) 10th grade students in 2002 and follow up data from years 2004 and 2006. The final sample for the 2006 data included 8,116 students. The purpose of the study was to measure both cultural capital possession and activation within various racial/ethnic groups to determine if either could positively influence four-year college enrollment. For parental activation of cultural capital, they measured school staff interactions, exam preparation, information seeking, academic advice, academic rules, academic track, and student computer use. As hypothesized, they found that middle-income

families had more cultural capital possession and activation resources than low-income families with the same racial backgrounds (Merolla & Jackson, 2014). Looking at specific racial groups, African American students were found to have higher levels of cultural capital activation and lower levels of cultural capital possession when compared to white students. This study is important because it looks at within group comparisons of class and race. While this study used data sets of 10th grade students employing quantitative methodology to look for predictor variables, like much of the literature, it does not address Latino students and their parental involvement. Previous research (Cheadle & Amato, 2007; Lareau, 2000; Lareau & Calarco, 2012) has mostly been focused on concerted cultivation of White and African American students.

Studies that have focused on debunking myths about Latino parental involvement assert there are formal and informal parental involvement behaviors dominant in current research narratives and schools have not emphasized enough of the non-dominant behaviors (Delgado-Gaitan, 2007; Valencia & Black, 2002; Zarate, 2007). For example, Zarate (2007) reported that Latino families placed a greater emphasis on their children's education, but out of respect for their children's teachers, they purposely choose to avoid formal school participation such as chaperoning field trips or volunteering in the classroom. Zarate (2007) also concluded that Latino parents might not communicate comfortably with school staff because of an English language barrier, a lack of familiarity with the school system, or a perception that the school or its staff does not value their social and cultural capital. In addition, life circumstances may also prohibit Latino families from participating in a traditional manner. For example, lack of childcare or transportation, as well as not being able to re-arrange work schedules, was cited as reasons why Latinos may not participate in school functions and traditional parental involvement

activities (Valencia & Black, 2002).

While cultural concerted cultivation and cultural capital activation further extends social capital theory by looking at socioeconomic lines to help explain specific actions that parents take, the literature is still lacking regarding Latino parents specifically. Researchers (Guerra & Nelson, 2013; Valencia, 1997; Valenzuela, 1999) have suggested that attitudinal barriers exist in schools that contribute to the misconceptions they have about how to involve Latino parents in educational activities. Successful programs overcome this by moving from a "deficit perspective to one of empowerment and collaboration" (Sosa, 1997, p. 291). A plausible explanation could be what researchers assert to be a long history of *cultural deficit* perspectives and *subtractive schooling* practices towards students of color (Solórzano & Ornelas, 2004; Solórzano, et al., 2005; Villalpando, 2002). This, according to researchers, has contributed to an increase in the disproportionate number of Latinos enrolled in advanced mathematics courses. Cultural deficit perspective is illustrated as viewing students or their families by their weaknesses rather than their strengths (Solórzano, et al., 2005).

Subtractive schooling practices are those that subtract a student's pride and proficiency in their language and culture by instituting policies that are subtractive, not additive in nature (Bartlett & Garcia, 2011; Valenzuela, 1999). An example of such practices would include a lack or inconsistent implementation of bilingual education instructional programs. In research on Latino parent involvement, for example, deficit or subtractive schooling practices can be seen when only traditional middle school values are measured such as helping with homework and contacting the school (Horvat, Weininger, & Lareau, 2003), without regard to other practices that have traditionally not been studied.

Funds of Knowledge

Alternatively, *funds of knowledge* theory describes parental roles from an asset-based approach rather than through the lens of deficit approaches. *Funds of Knowledge* (FOK) is a framework derived from researchers Gonzalez, Moll, and Amanti (2005). They asserted that "people are competent, they have knowledge, and their life experiences have given them that knowledge" (p. ix-x). This framework, Saathoff (2015) explains allows educators to "change their view of Mexican and Mexican American households in poor communities as lacking knowledge…instead, these households have several resources that can be utilized by the teacher in the classroom" (p. 32).

Gonzalez, Moll, and Amanti stated that the goal of FOK as a framework is to "use the household's knowledge, cultural funds, and skills to inform classroom practices" (p. 91). According to Gonzalez (2005), FOK has historically viewed and used the term culture to explain the failures of non-dominant groups in society, and in effect was used to promote racism. In FOK, culture is not static. It is a process that is continuously changing and dynamic. In FOK, culture is seen as a process that is developed in household practices that can be seen as resourceful rather than deficient.

Similarly, Yosso (2005) used a critical race theory lens to address the resources and opportunity to learn of non-dominant groups. Yosso stated that culture is a combination of "behaviors and values that are learned, shared, and exhibited by a group of people" (2005, p. 75). Again, culture is dynamic. Since cultural capital has historically been defined using a "very narrow range of assets and characteristics that have been largely defined by White, middle-class culture and values," Yosso challenged previously held beliefs about cultural capital. In his 2005 article, Yosso expanded his definition to what he terms as *community cultural wealth* (CCW)

which expanded the perspective beyond white middle-class cultures in order to glean perspectives in six forms: *aspirational, linguistic, familial, social, navigational and resistant*.

Aspirational CCW is stated as the ability to "maintain hopes and dreams for future, even in the face of real or perceived barriers" (Yosso, 2005, p. 77). Latinos show tremendous resilience according to researchers (Castro, 2000; Ellis et al, 2012; Yosso, 2005). Often, this is seen in Latino belief in *esperanza,* or hope in Spanish speaking communities (Ellis et al., 2012). Linguistic CCW are the "intellectual and social skills attained through communication experiences in more than one language and/or style" (p. 78). While often seen as a barrier, Ellis et al. (2012) stated that CCW is a benefit to Latino college students. It is in this ability to "communicate in more than one language that helps them navigate through diverse communities by not only having a large vocabulary" (p. 38).

Yosso (2005) defined familial CCW as the "cultural knowledge that is nurtured among *familia,* or family that also carries a sense of community history, memory and cultural intuition" (p. 79). Ellis stated that this (family unity) is a core characteristic of Latino families. Latino families tend to be larger in size and "often consist of extended familial networks" (Ellis, p. 39).

Social CCW are "the networks of people and community resources that provide instrumental and emotional support to navigate through societies institutions" (Aragon & Kose, 2007, p. 118). *Respeto* or respect could be one of these (Valdes 1996). Ellis et al. (2005) stated that Latinos respect persons of power in their community and have a sense of *simpatía*, or sympathy, which in Latino communities goes beyond English definitions and encompasses "the desire of harmony over discord" (p. 39).

Navigational CCW are the "skills of maneuvering through social institutions such as in universities and other academic institutions, which are traditionally not built or developed to

assist and facilitate the particular academic success of Latino students" (Yosso, 2005, p. 80). For example, when educators intentionally demonstrate for families needed technology skills, such as registering for classes and applying for financial aid, purchasing textbooks, and looking for on the campus housing, Latino families gain more traditional community wealth resources (Aragon & Kose, 2007). Delgado-Gaitan (2007) also recommended that schools teach about technology and how it can help families navigate college enrollment giving them access. Lastly, resistant CCW espouses that Latinos possess "knowledge and skills that are fostered through oppositional behavior that challenges inequality" (Yosso, 2005, p. 80). In other words, skills learned from engaging or being a recipient of institutional and societal racism and or educational disparities are those that have characteristics of resistant CCW (Ellis et al., 2012).

Sibley and Dearing (2014) conducted a study using the national ECLS-K to measure the extent to which American born and immigrant families are involved in their child's education during the early years (first and third grades) and to see if associations existed between the two groups. They found that immigrant parents reported the highest expectations; however, home-based involvement was similar for both groups of parents. Lareau (2000) explained this phenomenon by focusing on cultural capital characteristics of parents, stating that parents with less education are less likely to confront school personnel about their child's education. Parents with more education are said to advocate more for their children to enroll in advanced courses.

Morgan (2002, 2005) found similar results and asserted that parents that have greater familiarity with the educational system are more advantaged since they can provide their children with information on how to apply themselves to their academic work in a more successful manner. Looking more specifically at Latinos, Stanton-Salazar (1997) and Brown (2007) asserted several cultural factors of Latino parents cause them to not push or advocate for

their children in schools. It is because “they (parents) do have a sense of “confianza,” which in Spanish means *trust*, at the schools that their children attend” (Brown, 2007, p. 72). In other words, Latino parents have noted that they place a large amount of trust in their child’s school personnel, and do not challenge decisions that are made regarding their child’s academic profile. Thus, they do not exhibit traditional parental involvement behaviors that are valued in schools.

Villenas and Deyhle (1999) took a critical race theory perspective to explain deficit and subtractive schooling practices by stating that historical and political systems in schools that have been maintained and normed by middle-class Whites contribute to disproportionality of representation in schools. In their study, they looked at the resiliency characteristics and behaviors of Latino families and how they draw upon them to teach their children about doing well in school or being educated. The authors concluded that the resistant and resilient behaviors of the Latino families are absent in schooling systems because of their deficit and subtractive schooling practices. In their study, parents revealed how, despite the school rhetoric of parent involvement, they felt "kept out" of schools by: the negative ways in which they are treated; by insensitive bureaucratic requirements; and, by the ways in which school-conceived parent involvement programs disregard Latino knowledge and cultural bases (Villenas & Deyhle, 1999, p. 415).

Whole-school practices and culture can certainly contribute to deficit perspectives; but even in schools that minimize this, enrollment patterns can be disproportionate. It is common for counselors to have a direct role in advising students on course selection (Borg, 2010; St. John, 1991; Villalpando, 2002); they have been called the *gatekeepers* in that sense (McKillip, Rawls, & Barry, 2012; Schmidt, Hardinge, & Rokutani, 2012; Stanton-Salazar, 1997). Equipped with direct knowledge of the student’s academic career, the academic goals of the school and district,

counselors can have direct influence on a student's decision of whether or not to enroll in advanced classes. McKillip, et al. (2012) stated that for students:

> A strong understanding of the context surrounding their school is important, but a great deal of this is out of the counselor's direct control. School counselors can have an indirect influence on family and student context by making efforts to acknowledge the backgrounds of students and encourage parental involvement in the school, and by working to find ways to motivate students to increase the student's' own efforts to succeed. (p. 56)

One study further explored the role of the principal in addition to the counselor serving in the "gatekeeper" role. Merton (1988) stated that administrators assigned students to honors courses and were found to encourage or discourage continued enrollment based on standardized scores.

Similarly, Schmidt, et al. (2012) found that while counselors help students in planning their course selections, middle school students do not receive enough advising regarding the importance of enrollment in advanced mathematics courses. Researchers (McKillip, Rawls, & Barry, 2012; Schmidt, et al., 2012) have attributed this to the limited understanding that counselors have about mathematics enrollment trajectories.

As shown, the literature suggests that a relationship exists between parental involvement and other outcomes across various ethnic groups (Kingston, 2001). The literature also suggests that when controlling for other variables, a positive effect is reported on college attainment of students of color when parental involvement behaviors are present (Calarco, 2015; McNeal, 1999; Mullis et al., 2003). However, most approaches to parental involvement regarding Latino students take a deficit perspective that emphasizes traditional forms of parental involvement instead of recognizing alternate behaviors that strengthen the educational outcomes of non-dominant cultures (Lopez et al., 2001). The literature also suggests that school personnel often do little to encourage students of color to enroll in advanced coursework due to lower grades

(Borg, 2010). The current literature does not take into consideration cultural capital activation behaviors of Latinos families in particular that may actually help to increase the likelihood of their continued enrollment in advanced coursework (Brown, 2007; Horvat et al., 2003; Villenas & Deyhle, 1999). As a result, de-facto tracking at early grades is common (Yonezawa, Wells, & Serna, 2002).

Funds of knowledge theory adds another construct from which to view activation behaviors for traditionally marginalized groups such as Latinos. Rather than looking at activation behaviors as something that Latino parents do not have, FOK allows the researcher to approach the study from an asset-based perspective, weaving cultural capital activation with funds of knowledge to explain which activation behaviors are specific to Latinos. There is evidence in schools that Latinos are achieving high academic performance, and that some are enrolling in advanced math courses. Understanding the specific FOK that Latino parents activate to encourage their children to enroll in advanced math courses from their perspective is absent from the literature.

Critical race theorists in education have contributed new perspectives of marginalized populations; however, gaps in the literature still exist in looking at parent perspectives due to cultural and language barriers. Bartlett and Garcia (2011), Valencia (1997), Valencia and Black (2002), and Valenzuela (1999) have cited language barriers and immigrant status as variables that contribute to differences in parenting styles and the social capital of students of color.

Pong et al. (2005) stated that it is important for future research to take into account specific school factors and characteristics that could help explain differences in academic performance. This is particularly important when looking at de facto tracking that is created by enrollment trajectories in courses such as advanced mathematics. The present study is situated in

a district that has a proportionate enrollment of Latino students in advanced placement courses. This study aimed to eliminate both language as a barrier and attempts to give voice to the non-dominant narrative of Latino families. By interviewing a variety of participants, this study could help us understand some of the possible parental and school characteristics that contribute to a higher percentage of Latino students enrolling in advanced placement courses.

Understanding that Latinos represent almost 25% of schoolchildren living in poverty (College Board, 2012) and that Latinos are the fastest growing racial subgroup, Lareau's conclusions about the differences in the concerted cultivation of middle vs. working or lower-class families are important to the present study. Lareau's theory of concerted cultivation was not tested with Latinos; nor was it tested with parents of children that are transitioning into sixth grade and making decisions about their enrollment in advanced mathematics courses.

Further to this, funds of knowledge could give insight into the perspectives and activation behaviors of Latino parents in their child's enrollment in advanced or regular math courses in sixth grade. Therefore, the current study utilized *funds of knowledge* theory, an asset-based approach, which could help us gain knowledge about parent perspectives on Latino student enrollment in advanced and regular math courses in sixth grade. By looking at family culture as a dynamic process, funds of knowledge helps us view parental practices as a resource rather than something that is lacking.

Related Literature Summary

In Chapter 1, I gave a brief introduction into the argument for the need for the study, while in Chapter 2, I detailed the current status of research in the area of Latino students and educational outcomes. In addition, I explored theoretical perspectives including social activation

theories that attempt to explain the gaps that have been created and have contributed to continued underrepresentation of Latinos in advanced mathematics courses and college. I also outlined how these perspectives are often gained through research studies that take a deficit perspective when looking at students of color populations to help explain causal and influential factors that lead to enrollment and attainment gaps.

This phenomenological study contributes to the small but growing literature on Latino parental perspectives, in particular, and the role they play in enrollment decisions at later elementary grade levels. The present study also aimed to fill current gaps in the literature at earlier transition periods by looking at a much earlier grade level (sixth). While in a similar study, Borg (2010) only interviewed students who did not enroll, the present study included interviews of both students who enrolled and those that did not enroll in advanced mathematics courses. Funds of knowledge theory was used to explore the actions and beliefs that distinguish asset versus deficit-based approaches for understanding these phenomena. Chapter 3 follows with a detailed description of the current study's proposed methodology that includes a description of the setting, participants, procedures for data collection and analysis.

CHAPTER 3

METHODOLOGY

A qualitative study using a phenomenological perspective was utilized to frame the approach for this study. This study included semi-structured interviews of eight sixth-grade students, their mother or father, two mathematics teachers, a counselor, and two district administrators. A phenomenological approach was used to frame the perspective or lens used to approach this qualitative study. Phenomenology assumes that meaning is revealed based on knowledge or truth that is known or discovered by a common understanding of mutual history, culture, and language (Flood, 2010; Hesse-Biber, & Leavy, 2011; Moustakas, 1994; van Manen, 2007). Phenomenology as a philosophy and research method is attributed to the influence of Edmund Husserl (Dall'Alba, 2009; McPhail, 1995; van Manen & Li, 2002; Moustakas, 1994). Within this approach is the epistemology or concept that phenomenology focuses on revealing meaning rather than on arguing a point or developing an abstract theory (Dall'Alba, 2009; McPhail, 1995; van Manen & Li, 2002; Moustakas, 1994).

Two approaches to phenomenology are described in the literature: descriptive, which is attributed to Husserl, and interpretive, which is attributed to Heidegger (Moustakas, 1994). Both descriptive and interpretive phenomenology constructs assume that knowledge:

> Can emerge in our consciousness in an empty manner and thus our experience moves toward filling them by virtue of looking and looking again, or they can be thought in a fulfilled manner, the seeing itself bringing about a sense of completion or wholeness of perception. (Moustakas, 1994, p. 65)

Husserl "was concerned with the discovery of meanings and essences in knowledge, and believed that a sharp contrast existed between facts and essences, between the real and the non-real" (Moustakas, 1994, p. 27). On the other hand, Heidegger's interpretive form of phenomenology assumed that perception creates and enables the knowledge or truth to appear,

and that perception creates it and "enables it into" the consciousness (Moustakas, 1994, p. 29). In other words, truth and meaning are not sitting there waiting to be discovered, but are constructed by those participating in it. Since this study assumes an interpretive stance of knowledge and truth, the research questions, methods, and data analysis have also been viewed through this interpretivist lens.

Semi-structured interviews with questions generated from existing theory laid the theoretical framework to approach this study from an interpretivist paradigm in order to answer this study's research questions:

1) What is the role of parents, students, teachers, counselors, and school administrators in enrollment decisions for mathematics courses?
2) Why are high achieving Latino students enrolling or not enrolling in advanced mathematics courses in sixth grade?
3) How are these efforts reflected in Lareau's (1997) model of *cultural capital activation* theory?
4) How are these efforts reflected in Gonzalez, Moll, and Amanti's (2005) model of *funds of knowledge* theory?

Research Design

This study included 1-on-1, semi-structured interviews of 8 sixth-grade students, their mother or father, 2 mathematics teachers, a counselor, and 2 district administrators. Interviews lasted approximately 20-30 minutes and occurred over an interview phase of several weeks. The interviews occurred after school at the school site for all participants unless requested otherwise. While the specific interview questions outlined in Appendices A-F guided the interviews, sessions were also informal. Open-ended questions were utilized to begin the dialogue to allow for additional probing questions if needed. The data analysis for this study included: (a) transcribing the interview tapes verbatim, (b) analyzing each interview to identify themes of

existing theory in relation to the research questions, (c) identifying related themes between all participant interviews, (d) connecting the findings to current literature, and (e) narrating the findings in written form in Chapter 4 of this paper. Figure 1 displays the conceptual framework that guided the study.

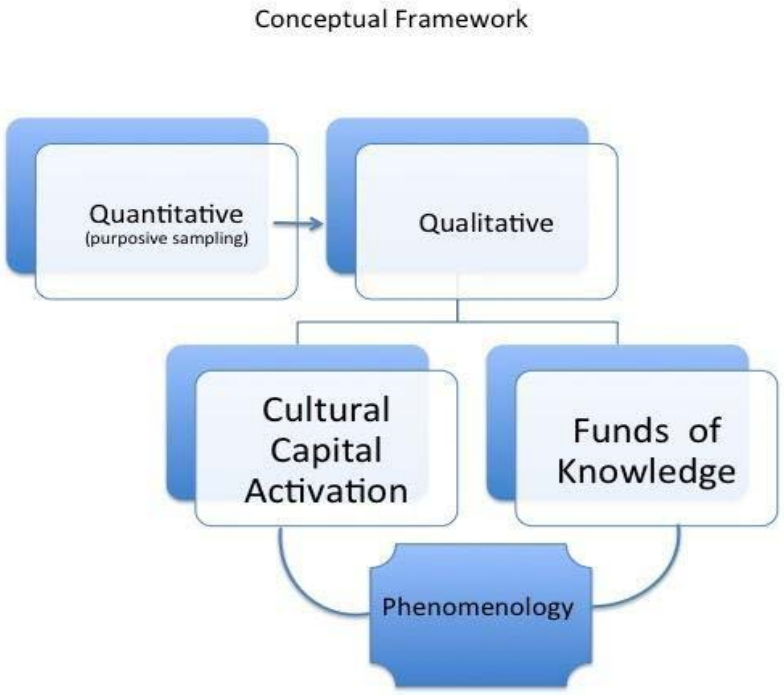

Figure 1. Conceptual framework that guided this study.

The conceptual framework for this study includes an initial quantitative stage to select the participants through a purposive sampling. The selected participants were then interviewed using a qualitative approach through semi-structured interviews. The theoretical frameworks of cultural capital activation and funds of knowledge informed the design of the questions and analysis of the data. Phenomenology was used to co-construct new knowledge about Latino parental practices that lead to the enrollment decisions of sixth-grade students to enroll in advanced and regular math courses.

Setting

Bryman (2012) wrote that research questions guide the context from which the sample will be chosen. The region or location included in the study becomes the basis for the sampling of context that is conducted in research. Considering the purpose of this study was to understand why Latino students enroll in advanced mathematics at sixth grade, this study was conducted in a small urban district in Texas whose economically disadvantaged enrollment was 43%. The total Latino student enrollment was 37%, with 34% enrolled in advanced mathematics (Texas Academic Performance Report, 2016).

This study was situated at one middle school whose demographics mirrored the district demographics closely. The site was chosen because it had the most comparative resemblance to the district demographics and high percentage of Latino students enrolled in the advanced mathematics course as compared to the total school population. The middle school site had 43% of students considered economically disadvantaged and a total Latino enrollment of 37%. Latino enrollment in advanced mathematics in particular was 35% (Texas Academic Performance Report, 2016). C*ultural capital activation* theory and *Funds of knowledge* theory were used to view activation behaviors using an asset-based approach to explore beliefs and behaviors that Latino families share, but is often absent in research.

Table 3

District and Campus Demographics

	Economically Disadvantaged	Total Latino Student Enrollment	Latino Enrollment in Advanced Mathematics
District	43%	37%	33%
Campus	43%	37%	35%

Source: Texas Academic Performance Report, 2016

Qualitative research generally can employ a subset or sample of a population for a given study, and the three most common sampling types are purposive, quota, and snowball sampling (Bryman, 2012; Mack, Woodsong, Guest, & Namey, 2005). In this study, the specific sampling of context, or first level of sampling, was purposive sampling. The district was specifically chosen due to the dramatic increase of Latino students in the last 10 years. In 2004, the district enrollment of total students was 8,480 and comprised of 68% White students and 23% Latino students (Texas Academic Performance Report, 2004). Ten years later in 2014, the district grew to approximately 18,100 students, and the ethnicity demographics showed a decline of White students to 47% and an increase of Latino students to 35% (Texas Academic Performance Report, 2014). Sixth grade is placed within the five middle schools at this district with 14 elementary campuses feeding into them based on district boundary feeder patterns. Since it provided the researcher with a larger and varied sample of students, the middle school with the most representation of Latino students enrolled in advanced mathematics was chosen as the school study site. The middle school determines placement of fifth graders into sixth grade advanced mathematics courses by considering previous mathematical ability based on previous mathematics course grades as well as standardized assessment scores in math. District-wide initiatives aimed at decreasing the under representation of historically marginalized groups also influence the identification and placement of students into the advanced mathematics courses.

Participants

This study focused on understanding the reasons why moderate to high-achieving Latino students, as defined by fifth-grade scores on the state assessment, enrolled in advanced mathematics instead of regular mathematics in sixth grade. Researchers have stated that

understanding enrollment patterns for advanced mathematics coursework can begin as early as middle and elementary grades (Archbald & Farley-Ripple, 2012; Goldschmidt & Wang, 2003; Solórzano & Solórzano, 1995). A thorough analysis of the data set that included advanced mathematics enrollment as well as achievement scores helped inform which school site was selected to conduct the qualitative interviews (Bryman, 2012). Subsequently, the participants for this study were chosen from one middle school in the district.

Qualitative research literature on methodology recommends that researchers obtain interviews on five to 25 participants in a phenomenological study to reach data and/or theoretical saturation (Creswell, 2006; Polkinghorne, 1989). A total of 21 interviews were conducted for this study. The school site selection was based on the high percentage of Latinos represented in the sixth-grade advanced mathematics course and provided the researcher with a larger sample from which to establish the baseline criteria used to select the student participants of this study. In choosing the participants to interview, purposive sampling was used. This was because the research questions specifically aimed to explain and describe the perspectives of Latino students and their parents regarding enrollment in an advanced mathematics course in sixth grade. As such, pre-selected criteria that were determined by the research question(s) informed this purposive sampling, as opposed to a convenience sampling, which is chosen because of the accessibility and proximity to the researcher (Bryman, 2012; Creswell, 2006; Glesne, 2011). Purposive sampling helped align the participants in this study to be able to answer the study's research questions (Bryman, 2012).

Since it was expected that the enrollment trajectories of high achieving and low-achieving (as determined by state assessment scores) are set, four of the moderate to high-achieving students were selected from those who enrolled in the advanced mathematics course,

and four were selected from those that did not enroll in the advanced mathematics course. As a result, eight students total were selected to participate in the study. To minimize gender as an influencing variable for enrollment in the advanced mathematics course at this grade, in this context, the eight student participants were going to be comprised of four females and four males. This decision was made to help minimize gender as an influencing variable for enrollment in the advanced mathematics course. However, as the quantitative data were reviewed, it was determined that the top eight students meeting the selection criteria would be selected. Two alternates in each group of advanced and regular mathematics students were also chosen in case there was a selected student that did not agree to participate.

One parent of each student was also interviewed for this study. Latino parent perspectives are largely missing in the literature, and researchers state that due to the disproportionality seen in students of color groups, there is a critical need to improve the life of marginalized populations to advance equity (Seligman & Csikszentmihalyi, 2000). The parent perspective is important to this study since motivation and self-determination has been mostly extrinsic at this young age (Vansteekiste, Simons, Lens, Sheldon, & Deci, 2004). To increase the ability to obtain parents' perspectives, and since language can often be a barrier in collecting interview data, parents had the option to have the questions stated and/or their answers collected in English or Spanish.

Initially, it was decided that the parent participant would be the mother of the selected students in this study. The selection of the mother participant operated on the assertion of research (Andrade, 1982; Gonzalez, 1995) showing that mothers strongly influence their children's decision-making. Additionally, in Latino families, mothers hold a "great deal of authority in reference to children's schooling, because men commonly relegate the responsibility

to women" (Delgado-Gaitan, 2007, p. 25). However, in one case, the father was the primary caregiver for the student, and he provided the parent perspective for this student. Table 4 describes the pertinent student participant demographics that help create context for the

Table 4

Pertinent Student Participant Demographics

Student name	Mathematics course enrollment	Parent participant	Pertinent demographic description
Marco	Advanced	Mother	Marco was born in the U.S. His mom and dad are both Latino, both graduated from college, and they both take an active role in his education. Marco is the first in his family to attend the middle site selected.
Michael	Advanced	Mother	Michael was born in the U.S. Hiss mom and dad are both Latino, and both parents graduated from college. Michael is the second in his family to attend the middle school site selected.
Nadia	Advanced	Mother	Nadia was born in the U.S. Her mom and dad are both Latino. Her dad graduated from college, and her mom, previously served as a substitute teacher in the district and is currently enrolled in college full-time to become a teacher. Nadia is the third child in her family to attend the selected middle school site.
Xavier	Advanced	Mother	Xavier was born in the U.S. His mom is White, his dad is Latino, and both parents received master's degrees. Xavier is the second child in his family to attend the selected middle school site.
Adrian	Regular	Mother	Adrian was born in the U.S. His mom and dad are both Latino, and they both have graduated from college. Adrian is the second child of his parents to attend the selected middle school site.
Dayanara	Regular	Father	Daynara was born in the U.S. Her dad is her sole caretaker, and he is Latino. He did not go to college and says at times, he works from 5:00 am to 10:00 pm in construction. Dayanara is the second child in her family to attend the middle school selected for this study.
Isabelle	Regular	Mother	Isabelle was born in the U.S. Her mom and dad are both Latino and both of their prior schooling experiences are from Mexico. Her mom attended high school but did not attend college, and her dad completed third grade. Isabelle does not have any siblings; and therefore, is the only child to attend the middle school site selected for this study.
Rocky	Regular	Mother	Rocky was born in the U.S. Her mom and dad are both Latino and are divorced. Her mom and dad have some college experience but did not graduate. Rocky does not have any siblings, and therefore, she is the only child to attend the middle school site selected for this study.

In addition to student participants and their parent, a counselor also participated in a semi-structured interview for this study. Knowing that counselors play a unique role in advising students with their course selection, it was important to also gain their perspective. Some questions that were asked of the counselor solicited their thoughts on how likely are students that enroll in a regular mathematics course in earlier grades to choose to enroll in algebra in eighth grade, for example. The goal was to gain some insight into when trajectory patterns are established. For the same reasons that the counselor was interviewed for this study, two district administrators that also had an advisory role to school principals and/or counselors were selected for the interviews. In a like manner, two experienced mathematics teachers were also interviewed. In selecting the two mathematics teachers, the researcher chose sixth-grade mathematics teachers who had insight into what happens to students who are not on an advanced track in their coursework. Having counselor, administrator, and teacher perspectives provided context for the structures that are in place for the students in this study to make course selection decisions at this age (Schmidt, et al., 2012; Seligman & Csikszentmihalyi, 2000).

Data Sources

The first data source used in this study was the 2016 state assessment data disaggregated by ethnicity. The state assessment scores were used as the defined metric for determining the moderate to high-achieving Latino students. In this phase, a profile was created for the students who fit the characteristics desired, and students were rank-ordered to identify high-achieving Latino students who are enrolled in both regular mathematics and in advanced mathematics in sixth grade. To establish the characteristics from which the students were selected, the researcher rank ordered the fifth grade 2016 state assessment scores of Latino students listing

them from highest to lowest. The researcher then identified the top four students in both the advanced and regular mathematics classes as the participants for this study. Two alternates from each category were chosen in the case that not all students selected agreed to participate.

The second data source for this study included semi-structured interviews of eight students, their parent, two mathematics teachers, a counselor, and two district administrators. Researchers state that interviews provide depth that would otherwise be lost in participant observation or focus group interviews (Bryman, 2006; Grbich, 2013; Mack, et al., 2005). Furthermore, participant interviews help to explore individual opinions and experiences in a more in-depth manner as well as to provide depth of meaning over time. The school personnel interviews were conducted to provide educator perspectives on enrollment patterns and trajectories for students who enroll in advanced mathematics courses at earlier grades. Transcribed interviews served as the primary data source for this study.

Data Collection Procedures

Once the university and the Institutional Review Board (IRB) granted final approval for this study, the collection of data occurred in four phases:

1) Semi-structured interviews of two sixth grade mathematics teachers (Appendix A)
2) Semi-structured interviews of the counselor assigned to the sixth-grade students and two district administrators responsible for mathematics (Appendix B)
3) Semi-structured interviews of eight sixth grade student participants (Appendix C)
4) Semi-structured interviews of the parent of each of the student participants (Appendix D)

The order of these stages was important because of the phenomenological approach and questions in this study. This study aimed to shed light on enrollment patterns through the perspectives of several participants who may influence the decision of students to enroll in

advanced mathematics courses at an early age. Initially interviewing the district administrators help to us understand the systematic processes in place for course enrollment. Next, interviewing the counselor helped the researcher understand how the campus communicated with parents regarding the enrollment process for advanced mathematics. This was followed by interviews of the teachers, which helped the researcher to better understand their perspective about trajectories established in early grades. Gaining the perspectives of influential adult educators was important before interviewing the students and their parents as they may or may not have had more insight into enrollment patterns than students could give to this study. These adult perspectives could have helped to inform the interview questions that were asked of the students. The students were interviewed next to provide context for the parent interviews. Finally, the parents provided insight and context for what the district, the counselor, the teachers, and their child may have stated during their interview.

The researcher's style of dress was casual to help participants feel at ease in answering questions (Bryman, 2012; Valenzuela, 1999). Consent forms were collected from participants after they were introduced to the research questions and purpose, and participants were assured they might elect to no longer participate at any time during the interview (Bryman, 2012; Hesse-Biber & Leavy, 2011).

Bryman (2012) stated that interview questions begin with initial warm-up questions that include requests for information such as the participant's age, grade level and interest in school, and are followed with questions structured to provide depth. Questioning techniques that allow the researcher to probe further once the participant has answered a question include:

1) *Follow up questions*: What do you mean by … or Tell me what that looks like.
2) *Probing questions*: You said earlier that you prefer …, can you tell me more about that?

3) *Specifying questions*: What effect did …. have on you?

4) *Direct questions*: Would you ever consider enrolling in an advanced mathematics course?

5) *Indirect questions*: Why do some students enroll in regular or advanced mathematics classes?

6) *Structuring questions*: Let us move onto the subject of ….

7) *Silence*: Pauses to allow the participant to reflect or add to an answer.

8) *Interpreting questions*: Do I understand you right in stating that you enrolled in regular mathematics or Pre-AP Algebra because ….? (pp. 476-479).

Interview protocols for all participants were included and were piloted with participants of similar characteristics prior to data collection to get feedback and refine or reorder the interview questions as appropriate. During data collection, interviews were conducted at the primary subject's school, unless the parent requested an alternate location. The communication also included an option of accommodating a better time within two weeks. Parent participants were given the option of completing the interview in English or Spanish. One Spanish interview and recording was delivered and transcribed in Spanish. It was not translated but was analyzed in Spanish to keep the integrity of the original views and words expressed by the participants (Bryman, 2012; Hesse-Biber & Leavy, 2011). In places where the Spanish interview or responses were used in the Findings, the words were translated for the reader. These sections were also back translated as way to evaluate the accuracy and quality of the translations.

To fully engage in the interview process, all interviews were recorded digitally. Audio was transcribed following the interviews with a voice to text application for the digital recording. Researchers suggest calculating an average of five to six hours of transcription to every hour of speech (Bryman, 2012; Hesse-Biber & Leavy, 2011).

The interviews of the two sixth-grade mathematics teachers occurred after the

instructional day and lasted approximately 20 minutes. The interviews were audiotaped, transcribed, coded, and analyzed to corroborate student responses and provide context for the study. The following demographic questions were asked at the beginning of the interview: gender, position, and years as a teacher. This was followed by questions that sought to understand how important is enrolling in the advanced mathematics class in their trajectory long term?

The interview protocol for the two sixth-grade mathematics teachers (see Appendix A) had both numbered questions that focused the interview, as well as lettered questions that served as additional probing questions to be used as needed. Other questions require the teacher to state what their advisory role was for mathematics courses, as well as their perspectives on the role that families play in the enrollment process of their children. Specific questions regarding Latino parent and family involvement were also asked. Finally, the researcher asked the teachers how they advise a student that wants to enroll in Algebra I, but they know may not be ready for the demands of the course?

The interviews of the district administrators and counselor occurred before or after the instructional day and lasted approximately 20 minutes each. They were audiotaped, transcribed, coded, and analyzed to corroborate student and teacher responses as well as provide context for the study. Similar to teacher interviews, the following demographic questions were asked of the counselor and administrator at the beginning of their interview: gender, position, and years in current role. The interview protocol (see Appendix B) contained numbered questions to focus the interview, followed by lettered questions to probe further just as in the teacher interviews. However, counselor and administrator interview questions were aimed at understanding, for example, the counselor and administrator perspectives of how students are selected was

explored. The researcher also used questions to explore if and how students are encouraged to enroll in advanced or regular mathematics courses.

Following the teacher, counselor, and administrator interviews were the student interviews. Student interviews took place at the end of the school day and lasted approximately 20 minutes. They were audiotaped, transcribed, coded, and analyzed to corroborate parent responses and provide context for the study.

For student interviews, the interview protocol allowed the researcher to use simpler language, considering that the students are in sixth grade. For example, the researcher began the interview by asking what they do on the weekend for fun. This question was unrelated to the purpose of the study and its research questions, but it helped the researcher build rapport with the students. Numbered questions focused the interview, and lettered questions were intended to serve as additional probing questions to be used as needed. The primary purpose of the student interview questions was to understand their perspectives on the roles that they themselves, their teachers, counselor, administrator, and especially their parents play in their enrollment decisions for advanced or regular mathematics courses. Students were asked questions regarding the relationship they have with each of these adults that serve in an advisory role in their academic endeavors. Students were asked about their own effort and motivation for being successful in mathematics and to describe their future plans for taking advanced mathematics courses.

Finally, parent interviews took place before, during, or at the end of the school day and lasted approximately 20 minutes. Demographic data collected included the parent(s) gender. Parent interviews were audiotaped, transcribed, coded, and analyzed to construct the essence of the phenomenon of *cultural capital activation and funds of knowledge* with respect to the eight student participants.

Parent interview protocols had numbered questions that focused the interview, while lettered questions served as additional probing questions to be used as needed. Parents were asked in which language (English or Spanish) they preferred that the interview was conducted; Spanish parent interview protocols are referenced in Appendix E. The parent interviews began with questions asking parents to describe the enrollment process for the mathematics course in which their child was currently enrolled and the reason(s) why they enrolled instead of the alternative course. Questions that followed were asked so that parents could give the researcher insight as to what role they had in helping their child decide to enroll in advanced or regular mathematics courses. Specific questions regarding academic rules, feedback, and parent involvement behaviors were asked to better understand the parent's perspective about their own role in these enrollment decisions. Questions regarding the relationship that the parent participants have with teachers, counselors, and administrators at their child's school were asked to gain insight into parent perspectives on how they viewed their relationship with adults in the school that serve in advisory roles to their children. Lastly, parent participants were asked to describe their child's plans, both long-term and short-term, including their intent to enroll in future advanced or regular mathematics courses. These questions were intended to not only gain insight into the parents' perspectives on enrollment decisions, but also to corroborate student interviews regarding the same.

Initial Interviews with Participants

District Personnel

Two district-level administrators, one counselor at the designated campus, and two sixth-grade mathematics teachers were interviewed for this study. Jennifer and Mary served as the

district-level administrators. Sabrina was the counselor participant, and the two teachers participating in this study were Joanna and Cassidy. Joanna taught the advanced mathematics courses, and Cassidy taught the regular mathematics courses.

- District Personnel Participant 1: Jennifer. Jennifer served as an elementary math coordinator for the district. Jennifer stated that her main job is to "make sure the curriculum is in place for pre-kindergarten through sixth grade." Jennifer has worked in schools for 11 years as a teacher, math interventionist, and math coach. She stated that students driven to take advanced mathematics are those that "are interested in pushing themselves and someone who has the stamina and the will to keep trying even when mistakes are made."

- District Personnel Participant 2: Mary. Mary served as the district mathematics coordinator with an emphasis on secondary grade levels. Mary described her role as being focused on curriculum and professional development. She further stated that she works "with the teachers and the district" on understanding the district mathematics goals in both middle and high schools. Mary has worked as a campus administrator, testing coordinator, and as an elementary through secondary teacher. Mary believes students who are driven to take advanced mathematics "have support, where they're being told that they can do this." In addition, Mary believes they have "confidence, they are not struggling with STAAR (State of Texas Assessments of Academic Readiness*)* scores, they are the ones that believe they can do it, or they believe that they should be able to do it."

- Campus counselor participant: Sabrina. Sabrina served as the counselor at the selected middle school site. Sabrina described her role in the school as one that provides guidance to students struggling academically and emotionally. She also mentioned that she meets with parents as well as assists in various areas of the school with the supervision of

students. Sabrina has a special education background and previously worked as a special education teacher. She described students in advanced mathematics as those that are identified as gifted as well as students that are "hard workers and push themselves really hard."

- Advanced mathematics teacher: Joanna. Joanna was first asked to describe a moment that stands out to her and makes her glad to be a teacher. She responded, "When I see the light bulb actually come on above their heads." Joanna continued the same thought by stating, "It's always those students that struggle, and then just one day it hits them." This moment she described is why she became a teacher. While she did not have an advisory role for students coming into her sixth-grade course, she played an active role in giving her "opinion when they move onto seventh grade," she said.

- Regular mathematics teacher: Cassidy. Cassidy was both a parent and teacher in the district. Her two children were currently enrolled in the middle school where this study took place, and it was the campus where she teaches. Cassidy provided a unique perspective for this study since she previously taught fifth grade. In addition, as a parent of students currently enrolled at the selected middle school site, Cassidy was on the receiving end of communication regarding enrollment in advanced mathematics courses.

Advanced Mathematics Students

The following students were enrolled in the advanced mathematics course: Marco, Michael, Nadia, and Xavier. These students enrolled in the advanced mathematics course during their fifth-grade year. Each student in this group had one or more parents who attended and/or graduated from college.

- Advanced Student Participant 1: Marco. Marco was enrolled in sixth grade advanced mathematics this school year as well as advanced classes for social studies. Marco stated that he hopes to become an engineer. He was clear when speaking about the importance of being good at things, saying "it turns you into an expert," which in turn "makes you feel good about helping people." Marco attributes being "good" in mathematics to his desire to have a good job. He also stated that he gives 110% effort in his advanced mathematics course.

For fun, Marco reported that he likes to be on his computer playing video games for short periods. He mostly enjoys sports and playing outside a lot with his baby brother and sister. He also beamed when he spoke about how quickly he can solve a Rubik's cube, and got even more excited when asked about the trick to the solution.

Marco is the first child in his family to attend this middle school. He feels a strong sense of responsibility to do well in school, especially to be a role model to his little brother and sister, saying that he knows they will "count on me to show them what is good." Marco's mom and dad are both Latino, both graduated from college, and they both take an active role in his education. When Marco struggles in mathematics class, his dad, who is "good at math" and was a top student in math in college assists him. His dad is an engineer where Marco states, "He does a lot of geometry." Marco said when he himself is stuck, his dad will help him. Marco reported wanting to be "like him."

- Advanced Student Participant 2: Michael. Michael was enrolled in sixth-grade advanced mathematics. He was also enrolled in advanced classes for English language arts and reading. He stated that he also hopes to become an engineer. He also stated that it is not as important for him to be good at things, but rather "if you try your best, that is what makes you better." He attributed being good at math to his love of math. He decided recently, following a

university tour, he attended with his older sister in Colorado, that he wants to be a robotics engineer. He puts in a lot of effort in his advanced mathematics course, because "to be a robotics engineer… you have to be good in those classes." Michael emphasized that when he becomes a robotics engineer, his plan is to help us "old people."

For fun, Michael reported that he likes to be on his phone or computer playing FIFA soccer or Madden football games. Occasionally, his dad plays the games with him. Outside of school, he enjoys all sports. At home, he enjoys playing basketball with a neighborhood friend and soccer with his little sister.

Michael is the second child in his family to attend this middle school. His older sister is a previous student at this school. Michael's mom and dad are both Latino, and both parents graduated from college. His mom previously worked as a special education teacher in the same district and was a cheerleader sponsor. In that role, she often worked on events at the middle school site chosen for this study.

- Advanced Student Participant 3: Nadia. Nadia was enrolled in advanced mathematics this school year. She was also enrolled in advanced classes for English language arts and reading. Nadia stated that she hopes to attend M.I.T. and become a "mechanic." When speaking about the importance of being good at things, Nadia said, "I think I just have really high expectations for myself and so do my parents." She attributes being good in mathematics to liking to do math. She also stated that she gives more effort than others do in her advanced mathematics course, because she gets tutoring through a mathematics vendor after school. Nadia stated that the tutoring course helps her to "know a little bit more, and I'm usually the one that answers a lot of the questions. And everyone else is always talking, so I would say I put more effort in than everyone else."

For fun, Nadia reported that she likes to text on her phone and play a Nintendo game called “Zelda.” She plays the game frequently, but always asks her dad to “kill everything” in the game, because he is good at it. Like Marco, Nadia also beamed when she spoke about how quickly she can solve a Rubik’s cube, and explained an algorithm for solving the puzzle quickly.

Nadia is the third child in her family to attend this middle school. Her mom and dad are both Latino. Her dad graduated from college, and her mom, previously served as a substitute teacher in the district, is currently enrolled in college full-time to become a teacher. Nadia stated that if she happens to struggle in her advanced mathematics class, her dad, who is "really good at math" helps her.

- Advanced Student Participant 4: Xavier. Xavier was enrolled in advanced mathematics this school year. He was also enrolled in advanced classes for English language arts and reading. Like Marco and Michael, Xavier hopes to become an engineer. He also stated that it is important for him to be good at things, because “if you take the time to do something then you should try, you know try to be good at it, just so it is not a waste of your time.” He attributed being good at mathematics to his mom “looking at his report card.” Xavier stated that he gives 95% effort in his advanced mathematics course.

For fun, Xavier reported that he likes to be on his computer playing video games. He also enjoys playing his clarinet, which he just started this year. He is active in Boy Scouts and loves to play soccer. When asked how good of a clarinet player he rates himself on a scale of 1-5, Xavier says he is about a 3.5 or 4. His response was the same for soccer: “about a 3” he said.

Xavier is the second child in his family to attend this middle school. Xavier’s mom is White, his dad is Latino, and both parents received master’s degrees. Though divorced, they both take an active role in his education. His maternal grandmother was an educator and she, along

with his paternal grandparents, are characterized as prioritizing education, making it an important part of the "family's lifestyle."

Regular Mathematics Students

The following students were enrolled in a regular mathematics course at the selected site: Adrian, Dayanara, Isabelle, and Rocky. These students were selected for this study because of their high scores on the mathematics state assessment in fifth grade. However, they did not enroll in an advanced mathematics course in sixth grade.

- Regular Student Participant 1: Adrian. Though Adrian was enrolled in sixth grade regular mathematics this school year, he was enrolled in advanced classes for English language arts. When speaking about the importance of being good at things, Adrian stated, "I just have to be good at things; it bothers me if I am not." Adrian did not see himself as being particularly strong in mathematics. This year, he has struggled to understand new mathematics concepts at the fast pace that he is expected to learn it in middle school.

For fun, Adrian reported that he likes to be on his computer playing video games for long periods. He also enjoys playing basketball outside with his neighborhood friend and younger brother. He also plays baseball and started playing the flute this year. When asked about his ability level on the flute, using a scale of 1-5 with five being the highest, he laughingly responded with a three for playing the flute, and a zero for playing basketball. Still he enjoys both activities.

Adrian is the second child of his parents to attend this middle school. Like Marco, Adrian feels a strong sense of responsibility to do well in school. However, unlike Marco, Adrian does not want to be a role model for his little brother. Instead, he wants to continue to

surpass his brother, who is one year younger. Adrian's mom and dad are both Latino, both graduated from college, and they both take an active role in his education. When Adrian struggles in his mathematics class, his mom, who is "good at clarifying things" helps him.

- Regular Student Participant 2: Dayanara. Dayanara was enrolled in sixth grade regular mathematics this school year. She did not enroll in any advanced classes. Though Dayanara had enrolled in advanced mathematics during her fifth-grade year, due to district rezoning, her dad missed the deadline to enroll her in advanced mathematics at her newly designated school. When asked if it is important for her to be good at things, Dayanara stated that sometimes it is in classes such as pre-athletics, but in some of her classes, she does not think so. She also stated that she attributes being good in mathematics to wanting to do a good job for her teachers. She said that she gives some effort in her regular mathematics course, but not too much since "nothing is really that challenging" for her.

In her free time, Dayanara mentioned that she most enjoys sleeping and watching television. After probing further, Dayanara reported that she likes to draw and play volleyball. She plays for a local recreation center team, but is not yet old enough to play on the middle school's team.

Dayanara is the second child in her family to attend middle school. Her dad is her sole caretaker, and he is Latino. He did not go to college and says at times, he works from 5:00 am to 10:00 pm in construction. He takes an active role in her education by talking to her about doing her "best in everything she does." Dayanara does not struggle in her mathematics class according to her dad, and they may be moving to a nearby district at the end of this school year.

- Regular Student Participant 3: Isabelle. Isabelle was enrolled in sixth-grade regular mathematics this school year. She was also enrolled in advanced reading. She stated it is

important for her to be good at things, because her parents "want (her) to get good grades, and if she does not get good grades, they will take away (her) phone." She also likes to be an A-Honor Roll student. Regarding mathematics, she wants to make her parents proud. Still, Isabelle stated that she gives little effort in her regular mathematics course, because even though she does not try very hard, she still "get(s) nineties" in the course.

During her free time, Isabelle reported that she likes to play on her phone or go to her cousin's house and get on the trampoline. She enjoys playing with her cousins and really likes to draw. She does not see herself as having particularly artistic interests, just drawing.

Isabelle does not have any siblings; and therefore, is the only child to attend middle school. Isabelle's mom and dad are both Latino and both of their prior schooling experiences are from Mexico. Her mom attended high school but did not attend college, and her dad completed third grade. Isabelle's mom takes a very active role in her education, stating that her dad leaves the educational decisions up to her. When Isabelle struggles in mathematics class, she first has her mom help her, or she calls her uncle who graduated from college. As a last resort, she does a Google search on the topic and watches videos on how to solve mathematics problems.

- Regular Student Participant 4: Rocky. Rocky participated in sixth grade regular mathematics and advanced reading. She stated that it is important for her to be good at things, "depending on the things." School is especially important to her, because she has high expectations, as does her mom. Rocky expects to go to college and is hoping to "get into M.I.T. or some other school…it doesn't really matter to me…just as long as I go to college" she states. Regarding mathematics, she is competitive and states that since her family is not good at math, she works to do better than they do. She puts little effort into her regular mathematics class stating that her friends ask her to explain things, but she is not able to since she "just sits down

and writes the answers instead of putting my work on the paper." She cannot really explain how to solve the mathematics problems to her friends, because she "didn't write it down on paper, and forgets easily."

During her free time, Rocky reported that she likes to text her friends. She also enjoys weekend gatherings when family comes to visit at their home. She stated that she loves to draw, especially when she is "bored in class".

Rocky does not have any siblings, and therefore, she is the only child to attend this middle school. In fact, Rocky moved from another state this school year in August to the selected campus. Rocky's mom and dad are both Latino and are divorced. Her mom takes a very active role in her education by having frequent conversations with her about school. When Rocky struggles in mathematics class, she attends tutorials with her teacher. At home, she will do a Google search.

Coding and Preparation of Data for Analysis

Qualitative research is known to give researchers a large data set, *corpus of data* that typically includes field notes, interview transcripts, and other documents (Grbich, 2013). General approaches to data analysis can be found in the multitude of literature within the scope of qualitative research. However, there are no specific guidelines and steps outlined for qualitative research that tell the researcher exactly which data analysis tools will be appropriate for analyzing the data that are collected. Bryman (2012) wrote that quantitative data analysis techniques often cite an "ambiguous set of rules about how to handle your data," but that qualitative data analysis has not reached this "degree of codification of analytic procedures yet, and many writers would argue that this is not necessarily desirable anyway" (p. 565). As a

result, only broad guidelines are offered. For this reason, an analytical framework is helpful for the researcher in determining the approach that will be used to analyze the data and refers to the strategy that guides the analysis of the data corpus (Grbich, 2013).

It is important to note that the methods, analytical framework, and approach taken in the research are governed by epistemology. The link between the three must be clear and systematic, even explicit, for readers to gain a transparent lens from which to critically analyze the research (Koro-Ljungberg, Yendol-Hoppey, Smith, & Hayes, 2009; Sofaer, 2012). It is suggested that researchers pay special attention to and communicate in the analysis and findings in detail about the reasons for the analysis approach, or *decision junctures*, and how those were chosen through the lens of the theoretical framework (Koro-Ljungberg, Yendol-Hoppey, Smith, & Hayes, 2009).

While analytical frameworks are not intended to be prescriptive systematic instructions on how to approach a data set, and since qualitative data are rich in meaning, the analysis of the data must also be reflective and reflexive in nature. An example of this can be found when the researcher pays particular attention to body language, or what is not said, for example. As the researcher engages in this reflexive process, findings can often guide further inquiry, allowing for a cyclical process that continues until data saturation is achieved (Probst & Berenson, 2014). An iterative process is described as a process of data collection that is repeated until nothing new is revealed or the research question has been answered (Grbich, 2013). Iterative analyses include approaches used in phenomenology. Since language is the means through which the data analysis occurs, understanding that language is not only a resource but also a topic through which the research is conducted, further guides the analytical framework from which the data analysis will occur (Grbich, 2013).

Bryman (2012) and Moustakas (1994) both stated that qualitative data analysis, because of the amount of transcripts inherent in qualitative research, can cause the researcher to get stuck in analysis due to not knowing what to cut out and what to keep. In response, the framework that guided the analysis of the data for this study was derived using a thematic analysis approach from a phenomenological perspective (Bryman, 2012). Thematic analysis for this study involved "building on the data from the first and second research questions," going through the data, and "highlighting significant statements, sentences or quotes that provide an understanding of how the participants experienced the phenomenon" (Creswell, 2006, p. 61). In thematic analysis, researchers take on a reflexive stance towards determination of emerging themes, even if they started out with a set of themes driven by the theoretical framework. The researcher read the interview transcripts several times. As interview transcriptions were completed and reviewed, codes were assigned to identify categories or themes of existing theory in relation to the research questions. As the researcher created categories, labels were attached to them to create connections between the categories became the major results of this study. This helped to minimize a common weakness in thematic analysis, which is to decontextualize the data, or themes that the researcher identifies (Grbich, 2013).

Using a thematic analysis approach is beneficial because thematic analysis is not attributed to any theoretical framework. Therefore, it can be used with several interpretivist studies like this one. Although this study was theory-driven, it was open to additional understandings that were revealed and did not fit into the theoretical construct. Additionally, the researcher often determines themes, so the researcher can determine how much or what data were significant to the purpose of the study (Grbich, 2013).

Since the nature of coding in qualitative data analysis is a continuous cycle of reflection

and re-working of the data within the analysis, deviant cases, if found, were also be analyzed (Bryman, 2012; Charmaz, 2003; Miles, 1979). Deviant case analysis strengthens the rigor of qualitative studies, in that it demonstrates the researcher's careful consideration of their own preconceptions, biases and assumptions. As such, it is important to understand that although the initial coding revealed some trends, the reality or truth as perceived by the participants in some cases ended up looking differently than intended from the research study (Bryman, 2012).

Validity has oftentimes been debated in qualitative research. Bryman (2012) stated that the contention stems from the continuous debate between most quantitative and qualitative researchers regarding methodology, as well as the differences in the epistemological underpinnings that are inherent in research. The belief of what is known and what is truth continues to drive this debate (Bryman, 2012; Glesne, 2011). In response, qualitative inquiry has addressed the debate surrounding validity by focusing on the credibility and trustworthiness of the qualitative research that is being presented (Creswell, 2006; Grbich, 2013; Lincoln & Guba, 1985).

Trustworthiness refers to the techniques used by the researcher to link the codes and themes in their study (Morrow, 2005). To assist the researcher in selecting appropriate ways for showing rigor and trustworthiness in qualitative studies, Morrow (2005) stated that the researcher decides which methods fit within the research question(s) and purpose of the study by first looking at the epistemological lens from which the questions and methods are being devised. The ideology of how meaning is constructed is key in forming the perspective from which the study will be conducted. Morrow (2005) provided a conceptual model of the "paradigm-specific criteria" that can be used to show transcendent validity and suggests *authenticity*, and *meaning* be described in as much detail as possible to establish rigor and

trustworthiness in interpretivist studies (p. 251).

Meaning can be shown through such things as *dependability, researcher reflexivity,* and *triangulation*. These are important to interpretivist studies because of the understanding of meaning that is inherent in the study from this perspective. Dependability, according to Morrow (2015), is dependent on the process being explicit and repeatable, which can be done through such things as an audit trail or a timeline. Researcher reflexivity, Morrow contends, is important in that it allows a researcher to understand how his/her biases could affect the study. As such, researcher assumptions, preconceptions, and biases are discussed. Morrow suggested that it is appropriate to an interpretivist study because this paradigm embraces the researcher as a co-creator of meaning.

An interpretivist paradigm allowed for reflexivity from the researcher and reflection from the participants' lived experiences and was driven by shared meaning (Hesse-Biber & Leavy, 2011; van Manen, 2007). To increase the trustworthiness of the study, data were collected through participant interviews of the students, their parents, two mathematics teachers, a counselor, and two district administrators using a semi-structured interview approach (Bryman, 2012). Interviews were recorded and transcribed (Bryman, 2012; Hesse-Biber & Leavy, 2011).

Allowing for the reflexivity of the researcher, the present study sought to understand the *why* and *how* of participants' behavior. Although theory-laden, the research was also open to new insights, based upon the mutual search for meaning (Finlay, 2002; Moustakas, 1994). Another keyword in these questions was "experiences." This implies that this study engaged research participants in describing their perceptions of their everyday lived experiences (Bryant & Charmaz, 2007; Moustakas, 1994; Randles, 2012). As such, open-ended interviews with questions generated from existing theory laid the theoretical framework to approach this

study from an interpretivist paradigm. This allowed researcher reflexivity and reflection from the participants' lived experiences and was driven by meaning (Hesse-Biber and Leavy, 2011; van Manen, 2007). Questions for the interviews were generated through existing theory of cultural capital, specifically on cultural capital activation (Lareau, 1987) as it applied to the parents' involvement, engagement, and activation behaviors that may influence their child's enrollment in advanced mathematics courses in sixth grade.

Along the same lines of researcher reflexivity, *clarifying researcher bias* or *confirmability* are other methods employed to increase trustworthiness in qualitative research. Confirmability is a term often cited in regard to trustworthiness, and it has to do with clarifying researcher bias. When looking at confirmability, the approach assumes that research cannot be objective, and findings are representative of what is being researched versus the biases of the researcher (Morrow, 2005).

As a final method for demonstrating trustworthiness, this study demonstrated triangulation of data sources. Triangulation refers to using multiple methods, data sources, and/or theoretical perspectives to analyze the data and in turn communicate the findings (Bryman, 2012; Creswell, 2006; Grbich, 2013; Guion, Diehl, & McDonald, 2011). In analyzing the data, the researcher demonstrated triangulation by interviewing participants with various roles within the school: the eight moderate- to high-achieving students, their parents, two mathematics teachers, a counselor, and two district administrators (Guion, Diehl & McDonald, 2002). In addition, the triangulation was achieved through clarifying researcher bias (Bryman, 2012; Creswell, 2006; Grbich, 2013).

Assumptions

Assumptions of this study included that advanced mathematics coursework is important and will continue to be important to students, parents, teachers, counselors and administrators in middle schools. It is also assumed that advanced mathematics courses in sixth grade provide students with a more rigorous preparation for later advanced mathematics courses in high school. A third assumption was that participants in this study would answer the interview questions honestly. To help the researcher proceed with the study based on these assumptions, anonymity and confidentiality were preserved in all aspects of data collection and analysis. In addition, participants were informed that they could withdraw from the study at any time without consequence. Anonymity and confidentiality were further attended by the fact that the researcher did not have any role or connection with the district that could raise conflict of interest or other pressures that might have created biases on the methods or analysis and findings.

The interpretivist paradigm from which the study is situated guided the questions, design, and analysis of this study. The researcher assumed that meaning could be co-constructed with the participants in this study. Phenomenology served as the lens from which the data were analyzed. This approach to data analysis assumed that meaning could be derived from the participants' perspectives based on their experiences. Taken together, the aforementioned assumptions allowed the present study to progress.

The Researcher

As the researcher conducts the study, careful reflection and examination of self as researcher is important. One way to do this is for the researcher to examine her own biases, preconceptions and assumptions about how truth and meaning are constructed. As such, the

research process itself becomes a focus for reflexive inquiry and allows for a co-creation of meaning between researcher and participant (Glesne, 2011). In attempting to clarify researcher bias, it is important that I outline for the reader my preconceptions, biases, and assumptions going into this study as well as throughout the research process. The researcher is not an employee of the district in this study, and is therefore not associated with the district in any capacity besides researcher.

Prior to beginning, it is important that I communicate that I self-identify as a first generation Mexican-American, Hispanic, and Latino (I use all three terms synonymously to self-identify my race/ethnicity). I identify as a first generation Mexican-American, because my parents are of Mexican descent and were not born in the U.S. I have insight into experiences of Latino families that are limited by my personal experiences and truth as I have constructed it throughout my life. In school, I would have considered myself moderate- to high-achieving, since I scored the highest in my class on the mathematics state assessment in eighth grade. I also graduated in the top 10% of my class from high school. I remember in eighth grade specifically, that while I received academic accolades for having the highest mathematics score on my state assessment, I did not experience a conversation with anyone about the importance of advanced mathematics courses at this important transition time leading to high school. Subsequently, I did not enroll in advanced mathematics courses. Looking back, I did not know the importance of advanced mathematics courses, and honestly, I was caught up like many students in my social life and my transition into high school.

When I began applying to colleges and universities, I sought help from my mother, a very educated adult in both her home country of Mexico and here in the United States. Unfortunately, she could not help me. As an adolescent, my mother had only experienced high school and the

transition to college while in Mexico. She received a high school diploma at age 14 and her college degree in Mexico at the age of 17. Academically, my mother had been accelerated through the grade levels in Mexico, though she reports that she always felt socially awkward, and never wanted her children to have the same experience even if they were successful academically. My mother immigrated to the United States as an adult and soon enrolled in college, but as an English language learner. In recalling her schooling experiences in the U.S., she vividly recounts how she would audio record all her classes in college, then go home and translate the audio recordings. What followed was a very tedious task of completing her homework in Spanish and then translating the work back into English before turning it in.

In a later conversation with my mother, I found out that she felt powerless to help me during that time, because she had a very different American schooling experience than me. I was born in the United States, my first language was English, and I was not categorized as an English language learner during any of my schooling as she was. After finishing college, my mom shared how proud she was of me, and I found out later that she had felt very inadequate to help me navigate the system with what she perceived to be a very limited knowledge.

My family has largely influenced my understanding of the culture and the time I spent each summer in Mexico with extended relatives (grandma, aunts, uncles, and cousins). I was immersed in the Mexican culture for two months each summer from kindergarten all the way through high school, more than a decade of my youth. I also faithfully served on my church mission team beginning in middle school until I graduated high school, and our mission trip location turned out to be the same town where my family in Mexico resided. This experience also greatly influenced my ability to interact and engage with not only the traditions of the culture, my culture in fact, but with differing socioeconomic conditions in which people live. I

must admit that I have developed a preconceived notion of truth that we ultimately are not that different in wanting to do what is best for our children in every culture. As I have experienced, though, barriers exist that can keep us from understanding each other more deeply, and this study was an attempt to do so by exploring more in depth the reasons why students enroll in advanced mathematics courses.

Knowing that I personally have experienced what Lareau (1997) would term as a deficit in cultural capital activation in regard to enrolling in advanced courses in middle school, high school, and college, this could limit my analysis of this study. While some may view this as a limitation, qualitative research does acknowledge that the researcher can become a co-creator of meaning (van Manen, 1990; 2007). For this reason, it could be argued that my experiences may have helped me to understand the depth in the perspectives that participants in this study had regarding this phenomenon in a way that would not be possible if I had not had these experiences and engagement as a member of the same or similar culture as the participants in this study. Additionally, this gave me as the researcher, a unique ability to engage in a study with a culture about which I understand and care deeply.

I would also be remiss if I did not reveal my own convictions and philosophies as an educator in both public and private schools having served as a teacher, summer school principal, and district administrator with over 15 years' experience. During my graduate coursework, I wrote a paper in 2005, comparing my philosophy as an educator after seven years had passed from my undergraduate work and my first writing about my philosophy of education. Interestingly, at the time of the writing in 2005 and now, my philosophy of education has remained unchanged even as 10 more years have passed since I compared the two writings. I include excerpts here as it still frames my personal assumptions about education and student

learning:

> First, I believe that the primary purpose of education shall be to teach students how to think critically about their world around them. I also believe that students should have opportunities in school to express their interests and allow those interests to guide the instruction that is given. In this way, students would be motivated to learn. Lastly, I believe another purpose of education is to prepare students for life outside of school. The question for me arises more in how this will be done.
>
> I believe in the child's ability to learn. I do believe all children can learn. Alfie Kohn, a writer and lecturer on education, suggests that children learn best by taking responsibility for what they are learning, much like in a corporate model where employees are free to make choices when it comes to decisions being made that directly affect them (Kohn, 1998). I find this *progressive* stance on education to be very true in my classroom, among peers, as well as within myself, as a perpetual learner in the field of education. I listen to my student's interests and shape lessons around them as much as possible. I have found that my students every year are generally very interested in animals, insects, oceans, the human body, plants, superheroes, and fairy tales among others. Therefore, this is where my professional aptitude comes in; where the artistry found in my profession is manifested. I take my students' interests and with the state TEKS objectives devise plans that will be of both interest and purpose to them as well as me. I believe that this openness to my students' interest is highly motivating. When they are interested in the subject matter my students are more attentive, more engaged, and better behaved. When assessing them, I find that the students have learned well beyond what I intended for them to learn and I attribute their motivation as one key reason. Since I value and respect my students very much, I am careful to prepare their learning environment to make it purposeful and interesting.
>
> Still, I balance student interest with my philosophical stance on what is essential in education. According to Dewey, a function of the school is to prepare the child for active life in the community and the world. I also am a proponent of this function of school. Though Dewey might not consider himself an essentialist, his ideas about the school functioning to get students ready to actively live in the community and world seem to fit with what essentialists believe students should learn.

In reflecting on my writing above, it is interesting that my philosophy of education in 1998 still holds true today, in 2017. Essentialists like me want students to contribute to their community and our democratic society in a positive way. However, I still believe that we must make learning meaningful and purposeful for the students, so devising lessons where students take on issues of interest to them while contributing to their community would be best.

Adolescents are developmentally very interested in global and societal issues. This time

is the prime opportunity to teach students both how to think critically about the world around them and to learn how to contribute for positive change. This would also give students practice with working in civic communities. It is interesting that my philosophy of education has not changed much since 1998. It has only been accentuated with more experiences from teaching and studying. In a sense, my own personal education has followed the same orientation. I am experiencing practical and meaningful learning when I come to class, reflect, and apply what is happening in my classroom (progressivism). At the same time, I am learning what is essential to becoming a great teacher and educator for years to come. In addition, this is of great importance to my own personal role in this life, a teacher to my community (essentialism).

Delimitations

This study is delimited to one public, suburban, middle school in Texas. In addition, the students selected will be chosen if they are identified as Latino and have ranked as the top scorers on the state assessment in mathematics during their fifth-grade year. The decision to study Latino students only for this study was made because of the rapid increase of Latinos that districts are experiencing. Additionally, a review of the current literature determined that there is a gap in parent perspectives of Latino students that could be a result of a language barrier. The language barrier for this study was eliminated by the researcher's ability to conduct the study and analysis in Spanish, which is the majority first or second language of Latinos in the United States. Other delimitations include that the interviews were conducted in the fall of their sixth-grade year, when the school year had already begun. Attitudes and beliefs may have changed from when students enrolled in the course until the time of the interviews.

Limitations

Limitations of this study include not being able to generalize the results of this study. This study design included eight student participants and their parent. The purposeful sampling of the participants of this study was limited to the parents of the eight students, four that enrolled in advanced mathematics and four that enrolled in regular mathematics at this middle school site. In addition, while the study design gave the option to parents to be interviewed in either English or Spanish, only one parent chose to be interviewed in Spanish. Additionally, the interviews were conducted in the spring of the student's sixth-grade school year. Therefore, some time had passed from the time that parents received communication about enrollment to the time that the interview was conducted. At the middle school site, two mathematics teachers and a counselor participated. Participants also included two district level administrators from the selected middle school site situated in north central Texas. The middle school selected had a high percentage of Latino students enrolled in advanced mathematics courses, which is not currently a common trend in Texas schools.

Methods Summary

This study investigated the role that families, students, teachers, counselors, and school administrators have for Latino students that enroll or do not enroll in advanced mathematics courses in sixth grade. This research offered more in-depth perspectives of Latino students and their parents. Exploring this phenomenon gave us a more compelling story as to the reasons and decisions that are made regarding enrollment in advanced mathematics courses.

Since student motivation is likely to be extrinsic and highly contingent on the opinions of adults at this early age, this study also sought the perspective of parents, school counselors, administrators, and teachers to give us more insight as to how decisions are made by students

enrolling into advanced mathematics courses. As such, in this chapter I detailed methodological decisions for all data sources and outlined the steps in the research process, providing justifications and theoretical support along the way. Then, I outlined an analysis plan, explaining the epistemological lens from which the decision junctures guided the type of analysis approach used for this study. Finally, specific trustworthiness and rigor techniques, as well as the researcher's unique role in this study, were discussed to increase the validity for this study. Chapter 4 includes a written description of the findings from the analysis of the data sources. Chapter 5 continues the written narrative of conclusions made by the researcher, as well as implications for further research. References and appendices are also provided at the conclusion of this paper.

CHAPTER 4

FINDINGS

The purpose of this qualitative study was to describe and understand why students enroll or do not enroll in advanced mathematics classes in sixth grade from the perspectives of the parents. While this is the academically bound purpose, the scope of this research has the potential to go beyond academia and influence practice. This research was conceived by need, the ability to see the invisible, and the belief that visibility can lead to progress. Using a phenomenological approach, the researcher explored the perspectives of school personnel, students, and parents by conducting semi-structured interviews. The perspectives of parents, who are anchors of their home and mirrors the student population, contribute to a better understanding of how and why decisions were made to enroll or not enroll their student in advanced mathematics courses in sixth grade at this campus. This qualitative approach allowed the participants to verbalize their lives in a way that brings meaning to a subject that has not been well researched or well understood. The ultimate effect of these perspectives could be an insightful foundational understanding, which would, in turn, give districts the eyes to see those that were once invisible. This visibility could be ground zero for districts to seek intentional recruiting factors that have the potential of higher enrollment of Latino students in advanced mathematics courses.

Bogdan and Biklen (1982) defined qualitative data analysis as "working with data, organizing it, breaking it into manageable units, synthesizing it, searching for patterns, discovering what is important and what is to be learned, and deciding what you will tell others" (1982, p. 145). While organizing the participant perspectives of this study into categories, it is important to remember the researcher’s role as co-creator of meaning. Inherent in the

phenomenological approach of this study is the interpretive nature that the researcher took in analyzing the participants' words. As such, it was not without bias that the researcher carefully selected what to include and what not to include. Still, the data are presented in participant's own words, free of interpretation in this chapter as much as possible, to convey the participant perspectives.

Participant perspectives are organized in an alternating fashion. The district perspective is presented first, followed by the student perspective and the parent perspective. This alternating fashion allowed the researcher to consider more fully the parent perspectives; such is the focus of this study. It also allowed for a revelation of the phenomenon surrounding the decision of enrollment in mathematics of the eight Latino students in fifth grade. This structure for reading the presentation of these data allowed for a comparison between the district, student, and parent perspectives, while also illuminating similarities and differences between them.

The findings are presented in categories within major themes for this study. The first theme is titled *the enrollment process.* This section details the systematic process that the district uses to identify fifth-grade students that would be "good" candidates for enrollment into an advanced mathematics course. It also contains the district personnel perspective, many times in their own words, and explores these district processes as understood from the perspective of campus personnel, students, and parents. The second theme is called *communication about curriculum content.* In this section, the researcher details the perspectives of participants as it relates to communication of content differences between the advanced and regular mathematics courses. The third theme is named *parental relationship with school personnel.* This section explores the perceptions of participants regarding the relationship between parents and school personnel and how relationships affect parental decision-making. The fourth and final theme is

titled *decisions about enrollment.* This section includes academic references that parents draw upon in making their decisions about enrollment of their child in advanced mathematics in sixth grade. It also explores the relationship of the parents in this study with their child and other influences in their decisions regarding enrollment.

Both regular and advanced student participants seemed comfortable sharing their perspectives. While they were not the focus of the study, the student perspectives helped provide context for the parent interviews that were subsequently conducted. In the forthcoming presentation of the findings, it is important to remember that this study seeks to answer the study's research questions:

1. What is the role of parents, students, teachers, counselors, and school administrators in enrollment decisions for mathematics courses?
2. Why are high achieving Latino students enrolling or not enrolling in advanced mathematics courses in sixth grade?
3. How are these efforts reflected in Lareau's (2002) model of *cultural capital activation* theory?
4. How are these efforts reflected in Gonzalez, Moll, and Amanti's (2005) model of *funds of knowledge* theory?

This chapter is organized by themes and categories and data were analyzed via the theoretical frameworks of cultural *capital activation* and *funds of knowledge*. These frameworks were used to explore the role that parents of high achieving Latino students take in their child's enrollment in advanced mathematics courses in sixth grade at the selected site. Additionally, the frameworks provided a lens from which to approach the parent perspective and to analyze the data in totality.

When looking at the data, I was tempted to share the parent perspective from a deficit lens. In other words, I could have focused on specific parental behaviors traditionally thought to encourage students to achieve at higher levels, such as parents helping their child with

homework, or parents contacting the school about their student's progress. Instead, I chose to focus on the markers of parental contributions that Latino parents in this study used to help develop their child's academic successes. The interviews were conducted with the intention of focusing on specific actions of the parent participants that may not be well written about in the current literature. I begin with each theme and then present categories that focus on the perspectives of the district, students, and finally highlight similarities and differences between both groups of parents: those whose children enrolled in advanced mathematics, and those whose children enrolled in regular mathematics.

The Enrollment Process

District Perspectives Regarding the Enrollment Process

If it takes a village to raise a child, then it must take a district to educate a community. The dependency student and parent populations have on districts to fulfill their roles in this relationship varies on one decisive factor: parental familiarity with academic processes. The district communicates the relevant enrollment information to all parents through personal and group meetings as well as via the students themselves. More specifically, the conversation regarding enrollment in advanced and regular mathematics courses at sixth grade begins during the student's fifth-grade school year. In preparation for this transition into middle school and as part of the enrollment process, district administrators, Jennifer and Mary, communicate beginning in January with school principals and counselors. In this communication, they outline the systematic process they use for collecting quantitative and qualitative data to gauge the potential success of students in advanced mathematics. Jennifer described the process as the following:

> We give them a placement exam at the end of fifth grade on algebraic reasoning. We take their screener for the year, which is Middle-School Students in Texas: Algebra Ready (MSTAR) Universal Screener, their report card, their test grades, [and] their overall math grade. We also have one component where we actually let the teachers put in qualitative data on their work habits and their study habits. Then, we take all of that information, and take it to the tech person. He figured out a formula and gave them a score. We figured if they got this score or above, they are probably going to be successful. If not, they may not be. We gave that information to our middle school counselors, because they are the ones that deal with actually placing students.

Jennifer described the process used to identify students that may be good candidates in advanced mathematics as strategic. The district put in place a process for assessing a student's readiness for enrolling in the advanced mathematics course by gathering both quantitative and qualitative data. The fifth-grade data sources used include the following: district developed placement exam, state developed algebra readiness screener (MSTAR), report card grades, local assessment grades, end-of-year mathematics course grade, and teacher feedback. According to Mary, weights are not attached to any one singular data point, and once the data are ranked by scores, they are given to the principal at the middle school campus.

Jennifer hoped that once the district gives the campus the qualitative and quantitative data, the school can make informed decisions on "whether they can be successful" in an advanced course. This allows campus principals and counselors to communicate to parents the best placement for their child in sixth grade mathematics. Jennifer, the elementary math coordinator, stated that they feel "if they can get them in the right place in sixth grade, it will be smoother the rest of the time."

Both district administrators, Jennifer and Mary, stated that enrollment in advanced mathematics courses is considered "open enrollment," meaning that students, along with their parents, can decide to register at multiple entry points throughout their academic career, into advanced courses. Since the district has open enrollment in advanced courses, Mary, the district

mathematics coordinator, described the parent's role in the process of enrollment as "looking at the course description and making the decision." After the parent has filled out the enrollment form, Mary stated that the district has:

> A general cut-off where we feel like the student is very strong, where they might be on the borderline, and where they are probably not ready for it [advanced mathematics]. Then we send that to the principals with general guidelines and then we support them. We give them some leeway as far as how they want to communicate, but the counselors and the principals will communicate with the families.

Mary states that the goal of this communication with parents is:

> Not to stop them [students] from going in, but to help counsel them into what the best placement might be. It is also to inform them of where they are strong and where they might want to grow in order to get into an advanced placement track eventually.

When discussing her thoughts on the importance of enrolling in advanced mathematics in fifth grade for later course enrollment, Mary agreed that the trajectory for registration into advanced courses happens at this early stage and continues into high school. She stated, "If they don't take eighth grade Pre-AP by the time they're in eighth grade, the students probably don't choose Pre-AP in ninth grade."

The district perspective, as shared by the math coordinators Jennifer and Mary in this section, help give insight to the district's systematic enrollment process. The district analyzes the quantitative and qualitative data gathered for each student and provides that information to the campus. The district wants this shared with parents so that they will use it to inform the decisions they make for their children regarding advanced mathematics course enrollment. The district recognizes that parents' lack of information may lead to lower enrollment in advanced mathematics; so, they provide parents with as much information as possible to make informed decisions.

Once they do this, it could provide the parents with the knowledge or cultural capital needed to make these decisions. Once they possess the cultural capital needed to make an informed decision, the parent can act on their decision, which is referred to as cultural capital activation. Lareau (2012) used the term cultural capital activation, stating that this refers to parents using cultural capital they have gained to advocate for their child's educational interests. If parents use the communication from the district to advocate for their child's educational interest, then parents are in effect utilizing cultural capital activation behaviors.

Understanding this process of how the district communicates this information to campuses helped the researcher by informing the interview questions asked of the campus personnel, which is included in the next section. The counselor, advanced mathematics teacher, and regular mathematics teacher were interviewed for this study. Their perspectives provided more information about communication efforts with students and parents regarding the enrollment process for advanced mathematics in the transition period between fifth and sixth grade. The next section highlights the campus perspective regarding the enrollment process, which at times aligned with the district perspective. However, in some instances, there were differences between the district and campus communication efforts as evidenced in their responses during the interviews.

Campus Perspectives Regarding the Enrollment Process

Sabrina, the middle school counselor, is aware of the various quantitative and qualitative data the district used to identify and recommend students that may do well in advanced mathematics. After the collected data was given to principals, the school invited parents and students to an orientation in the spring of the student's fifth-grade year as part of the enrollment

process. Prior to the orientation, the school sent home an enrollment form for parents to fill out their child's selected mathematics course for sixth grade.

In the previous section, the district recognized the disconnect in vertical collaboration among feeder campuses. Sabrina gave more insight into the progression that the district has engaged in over the years to refine the procedures and communication regarding the enrollment process. In the first year that Sabrina participated in the district initiative, her primary task was to focus on sixth grade mathematics enrollment for advanced courses. At that time, she traveled to all six of the elementary campuses that feed into her middle school. In her second year as a district administrator, she chose half of the schools to visit. She worries that "kids are not hearing the same message from all of us [the counselors]." As such, she feels that this process is leading to inconsistency and "could be done differently." Still, Sabrina received questions from parents and students regarding enrollment in advanced mathematics. She stated that she did address parent questions as they came. The parents' efforts to communicate with the counselor and ask questions demonstrates that the Latino parents in this study engaged in behaviors to further the interest of their child's education. This could be an example of parents using cultural activation behaviors to advocate for their child's educational interest.

Since Sabrina works at the middle school and does not have a personal connection to the incoming fifth graders, she responded to parents by stating: "Ask your child's teacher what they think. [Ask] if they think [Pre-AP] would be a good fit for your kid. [Find out] if they have a strong interest in math, for example." In giving parents specific things they could do to help them make enrollment decisions, Sabrina is equipping parents with cultural capital activation behaviors. Additionally, as parents were making their choices, Sabrina stated that she had sit down meetings with parents and students as needed:

> If we looked at their grades and they signed up for Pre-AP, and we thought this might not be the best fit then we might sit down and talk to the kids. We might spend a little more time talking with the individual kids as they choose.

Herein lies another example of the counselor equipping parents with cultural capital activation behaviors. In this manner, the counselor may be acting in the "gatekeeper" role as referenced in the literature review of this study. McKillip, et al. (2012) stated that the gatekeeper role is such that the counselor is equipped with direct knowledge of the student's academic career, the academic goals of the school and district, and can have direct influence on a student's decision of whether or not to enroll in advanced classes.

Following the orientation and the selection of the mathematics course, the principal makes the decision of who will enroll in advanced and regular mathematics courses based on both the data collected and the choice the parent and student have made. The principal engages in this process by looking at all of the data holistically. This finding was a surprise since most of the literature revealed that counselors served in a gatekeeper role (McKillip, Rawls, & Barry, 2012; Schmidt, Hardinge, & Rokutani, 2012; Stanton-Salazar, 1997), though one study did mention school administrators as gatekeepers as well (Merton, 1988). Specifically, at the selected middle school site, the principal looked at the data collectively and made the final enrollment decisions of which students to enroll in advanced mathematics.

Joanna and Cassidy, the receiving sixth-grade teachers, had a different perspective than Sabrina. Joanna, the advanced mathematics teacher, knew that the district distributed the results of various data references to schools, but she emphasized that "as of right now, [the decision] is strictly up to parents." Cassidy, the regular mathematics teacher, agreed with Joanna and stated that the child "gets advanced mathematics, if that's what the parent chooses." Both of the sixth-grade teachers' perspectives seem to conflict with the district administrators and counselor

statements, which named the principal as the one that made the final decision about which students are placed into advanced mathematics. However, the counselor stated that parent choices are also a part of the collective data that the principal uses to place students into the advanced mathematics course. Therefore, the perspectives differ somewhat as to who has final decision-making authority at this middle school site. The counselor believed it is the principal, and the mathematics teachers believed it is the parent.

When asked about the trajectory for mathematics course enrollment, Sabrina responded, "It seems to me that most of the kids that are in sixth-grade advanced mathematics are also in seventh-grade advanced mathematics." Joanna agreed that enrollment decisions determine the trajectory into later enrollment in advanced mathematics courses. She stated that if students start in advanced mathematics in junior high, then "they are most likely going to follow that suit when they get to high school." Cassidy also thinks that taking advanced mathematics at middle school will increase student enrollment in advanced courses at high school stating, "If they were to take advanced sixth-grade math, [then] choose to move up to calculus [in high school], I think they'd be perfectly fine."

The two mathematics teachers recognized the importance of taking advanced mathematics courses for later course trajectories. Still, they did not address specific actions they took to help increase student enrollment in advanced mathematics. This could be because they did not have an advisory role for fifth-grade students currently taking their classes. They did engage in conversations with students at the end of their sixth-grade school year to help guide them for subsequent mathematics course enrollment in seventh grade.

Campus personnel had the role of communicating district initiatives and goals to students and parents. Part of that role included communicating the enrollment process. The counselor at

the selected middle school site was the primary designee for communicating this information to parents and stated that the principal had the ultimate decision-making authority in the process. The teachers felt that it was the role of the parents to make the decision, not the principal. Since the teachers did not have an advisory role in this study, they did not communicate generally or specifically about the enrollment process in the same manner as the counselor did during the student's transition from fifth to sixth grade. What follows are the students' perspectives on how the enrollment process was communicated to them.

Student Perspectives Regarding the Enrollment Process

Advanced Mathematics Students

The four advanced mathematics students, Marco, Michael, Nadia, Xavier, shared their varying experience with the enrollment process. Nadia and Xavier both stated the enrollment process for mathematics included an orientation and form to fill out. Marco, on the other hand, stated that his teacher told him and his parents that he would be "good" in an advanced course stating, "When I took the test, they [fifth-grade teachers] took me out and told me you're good to go into the advanced class and it's up to you if you want to go." Marco also stated that his parents were informed that he would take a test to see if he "would enroll in that advanced class." Michael's perspective was quite different from the other three advanced mathematics students. He could not recall the enrollment process. He only recalled that he "started being smarter and getting smarter in class, especially in math" after enrolling in the course. He did not recall an orientation, form, nor did he recall a conversation with his teacher about enrolling in an advanced mathematics course.

Regular Mathematics Students

The four regular students, Adrian, Dayanara, Isabelle, and Rocky, described what they remembered about the enrollment process. They too recalled varying experiences. Adrian, Dayanara, and Isabelle described the enrollment process as a personal choice to enroll in regular or advanced mathematics. Adrian wanted to try one advanced course at a time to see how he would do. Therefore, he did not enroll in advanced mathematics in his sixth-grade year. Isabelle also described enrollment as a personal choice stating she "wanted to see if she was good at math first," before enrolling in the advanced course. She received a paper with choices, and she chose advanced reading. She did not choose advanced mathematics stating that it was "because I'm pretty good at reading because I read a lot." Interestingly, Rocky described her experience less about the process of enrollment and more about her circumstance. Rocky did not enroll in advanced mathematics, as she desired, due to a rezoning issue. Instead of focusing on describing the enrollment process itself, for Rocky, the rezoning issue became the focus.

This section provided insight into the student perspectives of both advanced and regular mathematics students. There was variance in the responses within both groups of students. The only similarity was that students in both the advanced and regular mathematics course recalled receiving a form to fill out with their enrollment choice. The next section utilized the knowledge gained from this section to inform the parent interviews. What follows is the parent's perspective on how the district communicated the enrollment process to them.

Parent Perspectives Regarding the Enrollment Process

Parents of Advanced Mathematics Students

Parents of advanced mathematics students Marco, Michael, Nadia, and Xavier, had some

similar and some differing experiences concerning the communication of the enrollment process. Nadia and Xavier's parents recalled receiving options for enrollment in regular and advanced mathematics via a form that came home. In Nadia's case, the form sent home was not the impetus for her mom to enroll her in the advanced mathematics course. Nadia's mom stated, "[We] kind of knew that's the direction we were going to take." She implied that in her family, students have taken advanced courses, and it was an expectation she had for her children.

Similarly, Xavier came home with a slip, but his mom did not give him the option of not enrolling in advanced mathematics saying, "I knew he had done well on STAAR tests in elementary, and it really wasn't an option." Xavier's mom was adamant that her son would enroll in the advanced mathematics course, being that it was an expectation of her children.

In addition to a form, Marco's mom received an additional notice that her son would be tested, after doing well in mathematics. Marco's mom shared that another notice arrived regarding the test he had taken that stated, "He was on a higher level, and he could enroll in a higher class because he was not average." Similarly, Michael's mom also did not recall receiving a form, but she stated that since she worked for the district, she was familiar with the process. She knew the importance of her son enrolling in the advanced mathematics course. She also recalled a meeting where the school "discussed what classes he would need to be in and what would be best for him." Based on this discussion, she felt at ease of putting her son in the advanced course.

In the cases of Marco, Michael, Nadia, and Xavier, all advanced mathematics students, their parents advocated for them by having conversations with their child's teacher. Parents may have engaged specific cultural capital behaviors to advocate for their children, albeit indirectly by making a preemptive decision to not give their children the choice of whether or not to enroll

in advanced courses. What is not clear is if the parents of advanced mathematics students understood the systematic process, the district uses to recommend who is a good candidate to enroll in advanced mathematics to the principal at the middle school site.

Parents of Regular Mathematics Students

Parents of regular mathematics students Adrian, Dayanara, Isabelle, and Rocky had similar experiences to advanced students' parents. For example, Dayanara, Isabelle, and Rocky recalled attending an orientation where they received a general overview about sixth grade. Parents recalled that they filled out a form after the orientation to indicate which courses they would like their child to enroll in for sixth grade. The form included an option of enrolling in advanced mathematics. Dayanara's dad stated, "So when we went to the junior high to do the orientation, we signed her up to do all advanced classes." Even though she registered for advanced courses, due to rezoning and the timeline in which she registered at her new school, Dayanara did not get into the advanced mathematics course. Dayanara's dad stated that he would make sure that his daughter registered for advanced mathematics in seventh grade.

In contrast, Isabelle's mom recalled that she attended a school meeting. At the meeting, they were given the option to enroll her child in advanced or regular mathematics. She did not recall specific information being shared about the enrollment process, only that they had the option to enroll in either class stating:

> La escuela nos dio la opción. Nos juntaron y nos dieron la opción de que nosotros escogiéramos y que leemos que si nosotros la ponemos en avanzados o regularles. Entonces fue la opción de nosotros y ella también.
>
> [Translation] The school gave us the option. We got together and they gave us the choice, of which we chose, and we read that we could put her in advanced or regular. Therefore, it was a choice of hers and ours too.

Rocky's mom had a very different experience than Dayanara and Isabelle. She recalled

that she registered her daughter for school but had no options for enrollment in an advanced mathematics course since she was a late registrant. She did recall an open house event stating, "We just went and we kind of just saw the school because it was her first year. The kids got a map, and they showed them where the classes would be while the parents got the registration packet."

For Adrian, his mom recalls that she "got the paper to try and sign [him] up for Pre-AP classes." She did not recall attending an orientation like the parents of Dayanara, Isabelle, and Rocky that recalled attending an orientation or meeting. She did recall; however, that the school said that they would "make their schedules for the following year. It had the classes listed that were being offered for Pre-AP. Just select it, and then the student would be considered to be enrolled in that." Interestingly for Adrian's mom, she recalled being told that her choice would be the final decision for her son's course enrollment after filling out the form. The mathematics teachers affirmed that they believed parents had the ultimate decision regarding their child's course enrollment, even though the counselor felt that the principal was the final decision maker. Yet, Adrian's mom only referenced filling out the form as being the determining factor for her child's enrollment in either advanced or regular mathematics.

In the cases of Marco, Michael, Nadia, and Xavier, all advanced mathematics students, their parents advocated for them by having conversations with their child's teacher. For regular mathematics students, Adrian, Dayanara, Isabelle, and Rocky, their parents did not advocate by having conversations with their child's teacher. In analyzing the data for both groups, neither parents of advanced mathematics students, nor parents of regular mathematics students understood the systematic process the district used to recommend who would be a good candidate to enroll in advanced mathematics at the middle school site.

Summary of the Enrollment Process

The district has put in place a systemic process for identifying and communicating the enrollment process to the campus. This process includes both quantitative and qualitative data such as the district developed placement exam, state developed algebra readiness screener (MSTAR), report card grades, local assessment grades, end-of-year mathematics course grade, and teacher feedback. The strength of the systematic process is that the district is using multiple data points to get an overall profile of the student in mathematics. In addition, the process includes an optional orientation, a required form, and in some cases face to face meetings with parents. The campus is then responsible to communicate this to students and parents. They do so through the fifth-grade counselor and teachers.

Since feeder schools may not be aligned in the specific processes for communication with parents regarding enrollment into advanced mathematics courses; herein challenges can arise. As this section attempted to present the findings in a way that could help us gain more understanding of the various perspectives regarding the enrollment process, the next section will focus on communication about the curriculum content from the various participant perspectives.

Communication about Curriculum Content

District Perspectives Regarding Communication about Curriculum Content

While the curriculum's student expectations do not vary in the state, districts can and often do vary in the specific scope of curriculum covered in a school year. For the selected middle school site, the district administrators shared specific curriculum content for both the advanced and regular mathematics courses with principals and counselors. As illustrated in Table 5, the sixth-grade advanced mathematics course includes 100% of the sixth grade and 40%

of the seventh-grade state mandated curriculum standards. In seventh grade, the remaining 60% of the seventh-grade standards and 100% of the eighth-grade standards are encompassed in the curriculum. By eighth grade, students that have taken sixth grade advanced mathematics will have covered all of sixth grade and 40% of seventh grade standards. Then, in seventh grade, students receive instruction on the remaining 60% of the seventh-grade standards and 100% of the eighth-grade standards. So, the advanced mathematics course curriculum prepares students to take advanced mathematics in eighth grade by covering all sixth, seventh, and eighth-grade mathematics standards by the end of the student's seventh-grade year. Table 5 provides a visual representation of the curriculum standards by grade level.

Table 5

Distribution of Curriculum Standards by Grade Level in Advanced Mathematics

	6^{th} grade standards	7^{th} grade standards	8^{th} grade standards
6^{th} grade	100%	40%	0%
7^{th} grade	0%	Remaining 60%	100%

Since the communication about the differences in the curriculum content is made from the administrators to the principals and counselors, both administrators agreed that it was the responsibility of the campus to communicate the curriculum content differences to parents and students. The question arose then: how well do parents understand these differences as communicated by the campus personnel. Mary, the district's secondary mathematics coordinator, acknowledged that parents might not have fully understood the differences in the standards between the advanced and regular mathematics course. She stated that principals asked the district to provide more clarity after parents seemed confused about the course content.

Having recognized this last year, the district added descriptions of both courses in their enrollment guide. Mary stated:

> That is a decision that for sure they had made this year and that was one of the things that was not in our course guide for the parents. It was one of the things the principals had asked us to put in. They said the parents were a little surprised when it came to that time and they realized that their child was taking the eighth grade and totally skipped the seventh grade.

When asked about the role that parents play in understanding these differences. Mary, the district mathematics coordinator, believes that the role of the parent is to "be aware of what all is expected of their child, be willing to support them, and know what is coming up." Mary thinks that parents should already have an awareness of what is expected of their student in regard to course requirements. Jennifer had a similar viewpoint stating that parents of students at the middle school "learn about the middle schools and what the courses are" at the orientations.

Yet, we have learned that both groups of parents expressed having varying levels of understanding about school processes such as course enrollment. As such, this could lead to some confusion about which course to enroll in. The current study aims to take an additive, not deficit perspective regarding what behaviors or beliefs Latino parents exhibit that may not be well explored in current literature (Ellis et al., 2012). Research to identify the cultural assets that Latino parents exhibit is scarce. In the current study, it was useful to identify these assets or "funds of knowledge" as understood by the participants' responses. The district administrators did not appear to value the assets or "funds of knowledge" that Latino parents exhibit, such as "confianza" or "educación."

This section briefly described the district administrator perspective regarding the communication efforts in the area of curriculum content. In reviewing the responses shared by the two district administrators in this section, the vertical articulation of the advanced

mathematics course is available to parents. The district is responsible to determine the course content of each course, but the communication of that difference is the responsibility of the campus, in particular, the counselor according to district administrators. The counselor visited half (three of six) of the elementary feeder schools for their middle school. Parents may not have received the course description highlighting the differences between the two courses. While the district administrators believe that parents should know the detail in differences between the advanced and regular mathematics course content, it is not likely that they do. Still, the enrollment guide description is intended to help parents make informed decisions regarding the curriculum. The subsequent section describes the campus perspectives that may give us more insight into what the campus personnel believed was communicated to parents about the differences in the curriculum content between the regular and advanced mathematics courses.

Campus Perspectives Regarding Communication about Curriculum Content

Jennifer and Mary, district administrators, stated that school principals and counselors communicate the differences in the course curricula to parents. Sabrina, the middle school counselor, clarified that while it was the responsibility of the principal to schedule students into their courses, it was the counselor's responsibility to speak to incoming fifth-grade parents about the rigor of the curriculum in advanced mathematics. Sabrina emphasized that while she communicated this information to parents and students, parents ultimately made the final decisions of enrollment. She described the communication stating:

> We talk about how when you come into sixth grade, you can take Pre-AP classes or on-level classes. With all parents, we talk about how Pre-AP is a little bit more advanced [and] moves a little quicker. Students that are strong in math or strong in ELA and literature, and like to be challenged or willing to work, [we tell them] Pre-AP might be the choice for you.

Sabrina referred not only to communicating about the curriculum content, but also about a student's aptitude for mathematics achievement in her statement. Still, since students along with their parents make the decisions of enrollment into either regular or advanced mathematics, Sabrina states that that the form they fill out has a "blurb on there that says Pre-AP is challenging and a little more rigorous than on-level." Sabrina said, as the counselor, she acknowledges their choices and if needed, encourages students to enroll in the advanced mathematics course during face-to-face conversations with students. While she does not hold face-to-face conversations with all students, she does so when parents or students themselves request more information or recommendations about course enrollment.

Teacher perspective for this study was also captured in regard to communication about course content. Joanna, the advanced sixth-grade mathematics teacher did not give an indication that there was communication about the course content to incoming fifth graders. She stated that the district gave students an algebra readiness test and along with the student's state assessment results, parents would choose to enroll their child in either regular or advanced mathematics. Since she does not play a role in advising students into her sixth-grade advanced mathematics course, she advises her current sixth grade students. She helps them on whether they should continue taking advanced mathematics in seventh grade. Joanna does not communicate with parents about the differences in the curriculum but does communicate with students about their continuing in the advanced track.

Cassidy, the regular sixth-grade mathematics teacher believed that there was some discussion about advanced mathematics courses with students. However, she did not believe that the same discussion occurred with parents. She stated:

> I do not believe there is a lot of discussion as far as letting the students know what is involved in Pre-AP mathematics for sixth grade. I do not think it is really discussed in

> full detail to let all the parents know the difference…there might be some discussion this year, because they changed the curriculum some this year, but I do not think it is pushed as much to let all the parents know.

In her statement, Cassidy was stating that while it was the responsibility of the counselor to communicate the differences in curriculum content, the communication was not specific enough. Since Cassidy is both a teacher and parent of current middle school children, her perspective is valuable here. She was involved in hearing the communication as a parent that also had experience as a teacher of middle school mathematics. She knew the curriculum content of both the regular and advanced mathematics course, and for her, the communication about the differences was not specific enough for parents.

This section verified that campus participants, the counselor, and the two sixth-grade mathematics teachers, agreed with the district that the counselor is the one responsible for communicating with parents and students regarding the curriculum content of the regular and advanced mathematics courses. However, campus personnel are unclear about the specificity of the communication. Sabrina, the counselor stated that specifics about the differences in the course content of regular and advanced mathematics are communicated, while Joanna and Cassidy, the two sixth-grade mathematics teachers, did not believe that is the case. The next section explores the student perspectives regarding the communication of the differences in curriculum content between the regular and advanced mathematics courses. The section also sheds light on the interplay of communication that occurs between students and parents.

Student Perspectives Regarding Communication about Curriculum Content

Advanced Mathematics Students

Advanced student participants did not reference receiving communication about the

curriculum content of advanced mathematics in fifth grade. Instead, the advanced students referenced what their experience to currently participate in the advanced mathematics class. For example, Nadia stated that she likes the advanced course much better since "people pay attention now." She stated that in fifth grade, it was hard for her to learn in a class where "no one paid attention." Michael shared a similar sentiment stating, "I learn a lot more stuff this year than last year."

While none of the advanced students shared that they received communication about the differences in the courses, two students did share some insight into their current knowledge about the differences. When asked what advice they would give to students deciding whether to enroll in regular or advanced mathematics. Marco stated:

> If you are going to take advanced math, make sure you are prepared. If you like being a little challenged then take advanced. It helps get you ready for seventh…. If you want to be in regular class, I understand, but always try to push yourself. Always.

In his statement, Marco focused on whether or not students feel that they are ready or able to take advanced mathematics course. If they feel they are ready to be challenged, then Marco suggested they enroll in the advanced course. Interestingly, Xavier expressed a similar sentiment:

> If you think that you can succeed in advanced math then try it, but if you think that you might not be able to learn as fast or understand everything as fast [in advanced mathematics] then be in regular math.

Xavier suggested that incoming students include their own mathematics aptitude in their decision on whether or not to enroll in advanced mathematics.

Even though advanced students did not reference specific communication about the differences in course content prior to enrolling in the regular mathematics course, they were able to give insight into the differences by how they viewed the course currently. Nadia and Michael

shared this insight. Marco and Xavier also gave insight by sharing how they would advise incoming fifth-grade students about their decision to enroll in advanced mathematics as told by the perspectives of Marco and Xavier.

Regular Mathematics Students

Two of the four regular mathematics student participants, Isabelle and Rocky, recalled knowing that there was a difference between the courses as communicated by the district during their fifth-grade year. Isabelle recalled the enrollment paper given to her during her fifth-grade year. However, when asked if the school spoke to her about the choices she was making on the paper, Isabelle stated, "They explained to us that it is going to be different, like the amount of time [as compared] to the other classes." Like the other regular student participants, Isabelle's statement here described the differences in terms of the requirements of the course. She did not reference any detail that was given about the differences in the curriculum standards of the courses prior to her enrolling in the regular mathematics course.

While Rocky knew of the difference, she described the difference more in terms of difficulty of the course. For example, when asked why she chose to enroll in the regular mathematics course, Rocky stated, "I didn't really want to do more homework on the weekdays." When asked how she knew that she would have more homework, she responded, "Some of my friends are in Pre-AP, and they come to second period complaining they have more homework; whenever we go to our class, we don't get any homework." By her statement, Rocky described the differences in the course by the level of homework, stating that based on the communication she has with her friends who are in advanced mathematics, she has concluded that they have more homework than she does in her regular mathematics course.

For Adrian and Dayanara, their knowledge of the differences came from their current experience as sixth grade students in the regular mathematics course. Furthermore, the students compared their experience with their friends' current enrollment in advanced mathematics. Adrian did not recall any reference of communication about the differences in the curriculum content between the regular and advanced mathematics courses. However, he did reference his current knowledge of the differences. When asked about his plans for seventh grade, Adrian stated that he was not sure that he would do well in the advanced course next year, because he was struggling in his current regular course. He worried that he would not be able to "go above level" in the advanced mathematics course.

Dayanara differed from Adrian in her plans for seventh grade. She shared that she wanted to enroll in advanced mathematics next year, because she would "get to learn eighth grade stuff in seventh grade." Only two of the regular student participants recalled receiving information on the differences between the course curriculums of the two courses. The ones that were able to explain the differences between the courses referenced their knowledge as a descriptive difference of the requirements, not of the differences in curriculum content. They stated that they understood the advanced mathematics course to be more difficult in terms of the amount of homework they would have to do, for example, but not in terms of the specific distribution of standards covered in each grade.

For both advanced and regular mathematics student participants, the campus did not communicate the differences in the curriculum content to them. Instead, student participants shared that their current experiences in their class has clarified for them the differences. For some, their friends have told them of the differences in reference to the amount of homework they have in advanced versus regular mathematics. The students' perspectives explored here

have helped clarify that the majority of the student participants did not understand the differences in the curriculum content of the two courses. The next section describes communication about curriculum content from the perspective of the parents in this study. Since parents play a role in making decisions with their student for regular or advanced mathematics course enrollment, their perspective provided more insight into why students are enrolling in either course during their transition into sixth grade.

Parent Perspectives Regarding Communication about Curriculum Content

Parents of Advanced Mathematics Students

Only one advanced student, Nadia, had a parent that recalled receiving communication about the curriculum content of the advanced and regular mathematics courses. Nadia's mom stated that the school told her that she "would not necessarily be doing more advanced math than everyone else would but would be going at a quicker pace." Nadia's mom noticed last year that the son of another family they carpool with was in sixth grade and enrolled in regular mathematics. Yet when her daughter was in fifth grade, and he was in sixth grade, they both had comparable homework assignments in mathematics. This helped her determine that if Nadia enrolled in advanced mathematics in sixth grade, it would not be so hard for her. Nadia's mom was not clear if the advanced mathematics course content allowed them to "go more in depth, or move quicker through things."

Of the three remaining advanced mathematics students, only Marco's mom specifically recalled receiving written communication from the school that stated Marco was "eligible to be in advanced [mathematics]." When asked if it had a written explanation of the differences in the curriculum content on the paper she received, Marco's mom stated, "I don't remember that. I

know they gave me his scores. It was always scores from STAAR state test or any other test that he has." Marco's mom gave further insight into her knowledge of the differences in the courses when she stated that she knew about the differences because of her "own high school experience." Marco's mom experienced high school in a neighboring district, so she was familiar with the course requirements of the advanced mathematics courses. She emphasized that she did not learn about the course differences for her student from the middle school site.

Michael and Xavier's moms did not recall receiving specific communication about the differences in the curriculum content mathematics courses. Michael's mom closely monitors his progress in his advanced mathematics course since she based her decision to enroll Michael in advanced mathematics on the prior experiences her older children enrolled in advanced mathematics in previous years. Similarly, Xavier's mom spoke about what she wanted Xavier to get out of taking to the advanced mathematics courses, but did not speak about the differences in the content. Xavier's mom wanted him to get the knowledge he needed to do well in advanced mathematics during his sixth- and seventh-grade years, so that he could enroll in advanced mathematics courses in high school.

Parents of Regular Mathematics Students

The parents of three regular mathematics students, Dayanara, Isabelle, and Rocky, recalled attending an orientation, while Adrian's mom did not. Like the advanced parents, regular mathematics parents that attended the orientation for Dayanara, Isabell, and Rocky, stated that they did not receive information on the differences in the curriculum between the advanced and regular courses. Collectively, the parents of regular mathematics students, even

having attended the orientation, only received information about the option of enrollment and the difference in difficulty between the courses.

Dayanara's dad for example, went to the orientation and stated, "I'm not sure if they went into the Pre-AP [description] a lot in the whole orientation." Isabelle's mom agreed, stating that she remembers the school telling parents that the advanced courses would be a little more difficult, but that the decision to enroll would be up to them:

> Nos dijeron que era un poquito más forzados las clases avanzadas, que eran mejor para ellos con el tiempo, pero que era la decisión de uno.
>
> [Translation] They told us that the advanced class was a little bit harder, was better for them long-term, but the decision was ours.

Similarly, Rocky's mom did not recall any details regarding the differences in courses. In fact, she only recalled that the schedule was given to her daughter with no choice on mathematics courses.

Though Adrian's mom did not attend an orientation, she recalled receiving a paper to sign up for advanced classes, but it did not have any definitions or descriptions of the course makeup for either course. Adrian's mom stated that the paper "just had the classes listed that were being offered for advanced mathematics." Therefore, even though Adrian's mom did not attend the orientation, she did not recall communication from the school about the differences in the curriculum content between the regular and advanced mathematics course.

Summary of Communication about Curriculum Content

Though the district communicates curriculum content of mathematics courses to campuses, and campuses are aware of those differences, the parents do not perceive to have received that communication. As evidenced, only one of the parents (Marco's mom) of the

advanced mathematics students recalled receiving specific details regarding the differences in the curriculum course content between the advanced mathematics course they chose and the regular course they did not choose. Furthermore, the three parents that did not recall hearing about the differences did not reference using the information about the differences in the course content as important to their decision. Like the parents of advanced student participants, parents of regular mathematics students also did not recall information specifically detailing the differences in the two courses. Parents of regular mathematics students shared more about the differences in terms of the difficulty between the two courses.

The above section explored the district, campus, student, and parent perspectives regarding the communication that parents received regarding the differences in the content of the curriculum between the regular and advanced mathematics courses. The next section describes the phenomenon surrounding the parental relationship that the parents have with school personnel. Since the communication from the district about the curriculum content was not evident, this next section will help explore what communication does occur between the parents and the school. It will also provide district, campus, student, and parent perspectives regarding the dynamics of that relationship as told by the participants.

Parental Relationship with School Personnel

District Perspectives Regarding Parental Relationship with School Personnel

We have all stepped foot in a store or place of business whose products were completely alien to us. Feeling alien to something is, exactly that, alienating. Some parents, due to an array of reasons, may experience this feeling in educational settings. In educational settings, one example of parental alienation to school personnel is that in some instances a student is the

vehicle of communication for their parent concerning matters that are school related. According to school personnel, students used as the vehicle of communication could be a reason that a parent does not receive information from the school in its entirety. Mary, the district mathematics coordinator, stated that:

> Speaking from the school I worked with as a math coach, it was a bilingual campus, and thinking about that experience with many of our Latino parents that did not speak the language, I think what I could see was they were hesitant to engage in a lot of discussion with the teachers, because of the language barrier. Therefore, I wonder if that might be a hamper on their children ... not getting all the full information that they need to help their child make that decision.

Mary felt that the information that Latino parents may not make the best enrollment decisions, because the information may get "lost in translation" due to a language barrier. Similarly, when asked what behaviors or beliefs Latino parents exhibit that would encourage or discourage their enrollment in advanced classes, Jennifer also responded with reference to school communication getting "lost in translation" stating:

> Latino parents are supportive of their children, and very willing for their child to do what was needed. [They are] very supportive of the schools and wanting their child to do well in the schools. I wonder sometimes though if some of it gets lost in translation the information that they might need to help their kids make that decision.

Along with the possibility that some communication is "lost in translation," as Mary noted, other possible reasons why high-achieving Latino students may not enroll in sixth-grade advanced mathematics could have been the limited understanding of the long-term benefits of taking an advanced mathematics course. Mary stated:

> They do not understand the benefits, do not understand what the class entails, or do not have good school experiences. Therefore, they do not know to push them into advanced courses. They [parents] do not know what they would push them to take even if they did [have good school experiences].

While the district administrators, Mary and Jennifer do not have direct contact with students, based on their prior experiences in the district, they reported that Latino parents are

supportive when it comes to what they want to communicate with the school. Both Mary and Jennifer referred to the possibility of communication being "lost in translation." Still, Mary and Jennifer did reference the value that Latino parents bring to schools. The next section includes the campus perspective regarding parental relationships with school personnel. Since they are in direct contact with parents and students, their perspective gives us an understanding closer to the relationship that parents develop with school personnel. This understanding is presented from the perspective of the counselor, advanced mathematics teacher, and the regular mathematics teacher in the section that follows.

Campus Perspectives Regarding Parental Relationship with School Personnel

Sabrina, the counselor at the middle school site visited three of the six elementary feeder schools to her campus. Her perspective on the parental relationship with school personnel was based on conversations she had with parents that asked questions about course enrollment. Sabrina, not knowing the students since they were not enrolled yet at her campus, stated that she would encourage parents to direct their questions about how well their child would do in advanced to their fifth-grade mathematics teachers. Sabrina spoke more about how the principal and staff have high expectations for students when they are enrolled on their campus. They communicate these expectations and their belief that students can do better than they think they can. When asked what behaviors or beliefs Latino parents may exhibit that would encourage or discourage their enrollment in advanced classes, Sabrina stated that it has more to do with "not understanding the benefits." This is similar to the district response that Mary gave about Latino parents not understanding the benefits. Still, Sabrina did not shed light on the relationship that Latino parents have with school personnel.

Both mathematics teachers, Joanna and Cassidy stated that they communicate with parents mostly through email. Joanna stated:

> I send out a weekly progress report of every student and any in my Pre-AP class. If they drop below an 80, I personally email their parents. I am in very close contact with all my parents, because we communicate weekly. I have a mass email I send out with their progress reports and then I make a list of those whom I need to probably communicate with, and I have several parent conferences.

Joanna and Cassidy did not state that Latino parents communicate any differently than other parent groups. They emphasized that in general, parents do not communicate with them, because they consistently send out email communication about the progress of their child. Joanna also stated that Latino parents are more involved with the school specifically to ensure that their child performs well in school saying, "If anything, they [Latinos] are more on top of their student's performance, and they want them to perform at a higher level." Joanna's statement reflects an example of her recognizing alternate behaviors that Latino parents exhibit that are not traditionally thought of as markers of high parental involvement in schools. In her statement, she recognized that Latino parents are communicating their desire for their child to do well and perform at higher levels. Furthermore, Joanna expressed that the emails she gets from Latino parents are focused on asking if their child is "doing well?" She stated:

> The emails I get from Hispanic parents are because they want to make sure their child is behaving or that their child is doing the best they can do. They are definitely not discouraging; they are very encouraging in wanting their child to perform well.

From Cassidy's perspective, she communicates with parents via email on a weekly basis. Other than that, she does not interact with parents much. Cassidy also stated that she did not see differences between Latino and other groups of parents. Cassidy stated:

> I have not seen much difference even with the student and parent that just a few weeks ago came in from out of the country, and they are barely speaking English. Even that parent has called up here to be involved and ask questions. I see it as the same through every type of population that we have. I do not see one parent more than the other calling

or not calling, or emailing me or not.

Cassidy's perspective was that parents of Latino students had the same interest in the education of their student as parents of other groups had for their student. Similar to Joanna's perspective, Cassidy also expressed concern that Latino students and their parents may struggle with language stating:

> I am not sure how much of the language comes into play, but for new students whose first language is Spanish, it is harder. If their parents do not speak as good of English, then they may not have the dialect that they need to be able to decipher the problems in the tests. Maybe if they knew the language better, would they be able to achieve better in school.

As heard through the voices of school personnel such as the teachers that have direct contact with parents spoke more directly about relationships with Latino parents. While they expressed that Latino parents are interested in their child's schooling, they also expressed that their interest may be limited when they do not understand the language and therefore miss important communication they receive regarding school. Teachers via email, and the counselor, send most of this communication and teachers did not express any characteristics specific to Latino parents that may affect enrollment into advanced or regular mathematics courses. The next section explores the student perspectives regarding their parent's relationship with school personnel. While the district and campus personnel have one vantage point for viewing this phenomenon, Latino students in this study provided another perspective that is often missing from current literature.

Student Perspectives Regarding Parental Relationship with School Personnel

Students in both regular and advanced mathematics shared about the relationship that their parents had with school personnel. The following sub-sections outline the student

perspectives for the five markers of parental involvement as described in Lareau & Calarco's (2012) study of cultural capital activation behaviors. The cultural capital activation behaviors described in Lareau's theory are behaviors that parents engage in to advance their child's academic interest in educational settings, and they include:

a. Assisting their child with homework
b. Having discussions with their child about school
c. Contacting the school about their child's progress
d. Participating in parent teacher organizations

Assisting with Homework.

Three of the four advanced students, Marco, Michael, and Xavier stated that their parents help them when they are having difficulty with mathematics homework. Marco stated that his dad helps with math projects if he has difficulty with them, but his dad wants him to "learn the skill." Therefore, unless he really needs help, his dad lets him figure it out. Michael stated that since his mom taught mathematics in special education, she helps him when he gets confused. Xavier also expressed a similar perspective as Marco and Michael stating that if he has difficulty with his homework, his mom will help him. Nadia was the only advanced student that stated that her parents do not help her, because she does not "need the help."

For regular mathematics students, two of the students expressed that they receive help with homework and the other two do not. Adrian and Isabelle shared that their parents help them with homework. Adrian stated that his parents sit down with him to clarify when he finds "something is confusing in math." Isabelle also gets help from her mom when she does not understand her homework. She stated, "When I have something I don't understand, I go to my

mom, and she reads it to me or tries to understand and explains it." If she and her mother both do not understand, they call Isabelle's uncle to help since he graduated from college. Dayanara and Rocky do not get help with their homework from their parents. Dayanara only has one page every day for homework, and since she does not need help, she does not ask her parents for it. Rocky stated that her mom is not "good at math," so she goes online for help.

Discussions about School

Only one advanced mathematics student, Marco stated that they have discussions with their parents about school. Marco discusses how he is doing in school and dad encourages him to talk to him if he has difficulty with something in math. Michael, Nadia, and Xavier do not have discussions with their parents about school for various reasons. Michael stated they do not "really talk about it" unless their discussion involves homework, and he needs to ask them about how to solve something. Both Nadia and Xavier discuss school with their parents regarding grades. For Nadia, the only discussions she has with her parents is if she is getting a low grade. Nadia stated an example of a discussion when her dad "got mad, because I got a 72 on a minor grade, but later I got my grade back up to a 93." Similarly, Xavier stated that his mom tells him she expects him to have good grades when they are discussing school.

For regular mathematics students, only Isabelle stated that her parents have discussions with her about school when they go to events at the school such as open house, and they want to inquire about what Isabelle will be "doing" in class throughout the year. However, since Isabelle does not need their help in mathematics, she does not talk to her parents about school otherwise. For Adrian, Dayanara, and Rocky, their parents talk to them about school if they are concerned about their grades. For example, Adrian stated that his parents would talk to him after they

contact the school if "something is going bad." Dayanara stated that her dad tells her she is doing well, so he does not have discussions with her about school. Rocky stated that her mom also does not have discussions with her about school in general, but is consistently "on top of her" to make sure that her grades are not "dropping."

Contacting the School About their Child's Progress.

When asked about their parents calling the school to ask about their progress, advanced students Marco and Michael, and Nadia align with campus personnel perspectives that state that their parents only email the school if they have a concern. Marco stated, "My parents email them if I have bad grades." Michael stated that his grades are high, so his "parents don't need to contact the school," stating:

> My math, I am really good in it, so I can look at them to see if I need to do more stuff about it; extra credit, or if I don't ... Those grades are pretty high. Low 90s is probably the lowest I have ever gotten and high 90s is probably best.

Nadia stated that since her parents have access to the online gradebook, they do not contact the school about her grades. Xavier differed from Marco, Michael, and Nadia when he expressed that his parents speak directly to him about his grades. He did not recall his parents contacting the school about his progress.

Adrian and Rocky, both regular mathematics students, expressed similar statements as those in advanced mathematics regarding their parents contacting the school about their progress. According to Adrian and Rocky, their parents only contact the school if their grades are low. Adrian stated that his parents "haven't really contacted the school, unless something's really going bad." Rocky stated that her mom has not contacted the school either, because "she's always on top of me about my grades and then she knows that if she tells me that my grades are

dropping, she knows I'll go and fix them." Dayanara stated a different sentiment saying that she gets her grades from her teacher, but her dad does not contact the school about them. Isabelle was unique in her response to her parents contacting the school about her progress. She stated that they did not do so, because they did not need to since she is "making all A's."

Trust in School Personnel

Regarding the level of trust that their parents have with school personnel, Marco, Michael, and Xavier, all advanced mathematics students expressed that their parents trusted the school personnel. Xavier for example stated, "She trusts them enough to let me be here for seven hours a day by myself without her so long. On the other hand, Nadia, also an advanced mathematics student, expressed that sometimes her parents do not trust the school personnel, because:

> They do not challenge me enough… [My parents think] they should be giving me harder stuff…But I tell them that we do a little bit of 6th grade stuff and a little bit of 7th grade stuff, but I don't think they believe me.

In responding to the question of the level of trust their parents have, Adrian and Isabelle stated that they thought their parents trusted school personnel. Adrian stated, "At the beginning of the year, they always meet all my teachers," and "they trust in them to keep me from failing." Isabelle stated that she thought her parents trusted "them because they know that they're trying to give me a better education, a good education, and she knows they're trying to give me a good education, so they trust them." Dayanara, also a regular mathematics student, was not sure about the level of trust her parents had for school personnel. When asked about the level of trust her parents have, Rocky stated that she does not have discussions with her parents about that subject. When probed further, Rocky stated that she herself trusted the counselors and her coach at the

school, because "they seem to be helpful a lot." She described her coach as helping her with her reading and how to increase her grades. However, she did not describe this in relation to her mathematics course.

Respect for School Personnel

Advanced mathematics students described respect in general terms when asked the same question about their parent's level of respect for school personnel. For example, all of the advanced students stated that they must show respect to their teachers and the staff at the school. Nadia said that her parents tell her she has to have respect for her teachers or she "will get in trouble since they are strict about having respect." Marco stated that he is required to show respect, because the school personnel are "older" than he is. His parents do not want him disliked by the teachers for being disrespectful. Xavier stated that his mom respects school personnel "for what they do knowing they get paid less but do it [work at the school] because they want to help us." Michael stated that his parents tell him to have manners and be respectful, because "it makes people joyful and happy in their heart."

When asked about the communication they receive about respecting school personnel, Adrian, Isabelle, and Rocky answered in positive agreement. Adrian stated that his parents "never get angry at anybody at the school. They never yell at anybody. They try to keep levelheaded." This, he believed, was his parent's way of showing respect. Isabelle, whose parents do not speak English, stated:

> They respect them, but they do not really talk that much. I know once, when we went to school for open house, they were polite to the teachers. They said hello, and they asked questions, so they were respectful at that time. I am sure that they would be respectful.

While Dayanara responded that she did not know about her parent's respect for the school personnel, Rocky stated that her parents tell her to "respect them even if I don't like them…I think it seems fair, because respect is a big part of what makes you, you; it makes you more mature, too."

Participation in Parent and Teacher Organizations.

Students were also asked about their parent's participation in parent teacher organizations. None of the student participants in either group stated that their parents participated in these organizations. Marco, an advanced mathematics student, and Adrian, a regular mathematics student both cited busy work schedules as the reason their parents do not participate. Nadia and Xavier, both advanced students, and Rocky, a regular mathematics student, stated that their moms did participate in years past, when they were in elementary school, but not anymore.

Based on the student perspectives, parents do not participate in traditional ways at their school. They do make it known to their student their level of trust and respect for school personnel. Many students' parents in this study also communicate those expectations to their children that are attending school at the selected middle school site. This section explored how they viewed their parent's parental involvement. The next section explores how the parent views their own parental relationship with school personnel.

Parent Perspectives Regarding Parental Relationship with School Personnel.

Assisting with Homework

Parents of advanced students varied in their response to if they helped their child with

mathematics homework. Marco and Xavier's parents stated that they themselves were not good at mathematics, so their husband or child's dad helped more often. Nadia's mom shared that her dad helped her mostly by looking over the homework occasionally. If she did something wrong, her dad had her go back and fix it. Marco's mom stated that if Marco needs help, he will ask for it, and that is when she gets involved. Overall, parents of advanced mathematics students assisted with homework if they themselves felt capable, or another family member, such as the dad or uncle helped students that needed it.

Parents of regular mathematics students also varied in their responses to the question of their level of assistance helping their child with mathematics homework. Isabelle's mom described her assistance as primarily to encourage her to work on finding a solution until she figures it out. If they absolutely cannot figure out her homework, then together they look on google. If that is unsuccessful, Isabelle will call her uncle. Isabelle's mom emphasized that they "do not give up" stating, "no nos damos por vencidos." Dayanara's mom and Rocky's dad both stated that they do not help their daughters, because they finish all homework at school. Adrian's mom leaves it up to Adrian's dad to help, "because he [dad] is good at math."

Contacting the School About their Child's Progress

Parents of advanced mathematics students Marco and Nadia reported only communicating with their children's teachers via email. Marco's mom stated, "If there's a problem, I could communicate emails to the teacher, and she would call me or email me back saying, "Hey Marco is missing something." Nadia's mom stated that she "met her daughter's homeroom teacher and that's about it." Her mom did email her teacher once, but she stated, "That's the only communication with her because unless she's emailing me about something, I'm

fine." Michael and Xavier's moms both stated that they do not have a relationship with teachers at the school. Only if Michael were having "issues," would she contact his teachers. Xavier's mom expressed a similar response stating that she did not have a relationship with school personnel stating, "I get her emails, and I might have emailed her asking, "Is there any way Xavier can make up the zero? I do not know what happened. Can we find it?" However, that is the extent of the communication between advanced mathematics parents and school personnel.

Parents of advanced mathematics students express that they have strong relationships with their kids, but not so with school personnel. They state they do not know the key school personnel, have not met them, and only receive emails about their child's grades. For example, when asked to describe the relationship with the mathematics teacher, Xavier's mom stated, "Sure, there's not one. [I have] never met her. I get her emails, and I might have emailed her asking, 'Is there any way Xavier can make up the zero?" Still, both regular and advanced parents stated that they try to encourage and support their children in matters relating to school. Nadia's mom stated how proud she feels when her daughter comes home with her report cards and she has earned high numerical grades in her advanced mathematics course. She stated:

> When she [Nadia] talks about her future, the jobs that she talks about, they have to do with math, and being a good student, and I think, also, she enjoys pleasing us. We are proud of her, no matter what, but I am not going to lie, when I get her report card and her lowest grade is a 98 or something, we are very proud and she knows that.

Nadia's mom also stated that she encourages her daughter to understand that she will not be first in everything.

> You are not always going to be the best, you are not always going to have the highest grades, but we want you to do your best, and really have never let up on that. She understands that we put a high value on her academic success; we invest a lot in her academic success.

The moms of advanced mathematics students Michael, Marco, and Xavier said they did not know who the counselor was. When asked about the campus administrators at the school, Michael and Nadia's mom knew the principal they said. Michael's mom knew the principal, because of Michael's older siblings that also attended the middle school site. She also knew her professionally in that she worked as the cheerleading coach at the high school and would "do a lot of stuff with the middle schools." Though Nadia's mom said she knew the principal personally, she also stated that she "haven't communicated with her about my child."

Parents of Adrian and Dayanara, both regular mathematics students stated that they do not really need to have a relationship with school personnel and their teachers. Adrian's mom stated, "I haven't really needed to. I think if I did, I would be on it. Dayanara's dad aligns with advanced mathematics parents stating that he gets "weekly emails that shows her weekly progress reports. I am able to keep track of what they are doing and if they are not turning something in. I haven't really had any issues." Isabelle's mom spoke strongly about her dislike regarding the communication she had with school personnel saying:

> Lo único que a mí no me gusta ahorita es que todo es bajo email. Ya no es como a la vez entiendo. Como en primaria, siempre teníamos juntas con las maestras. Teníamos más comunicación con ellas. Podíamos contarnos con ellas y ahorita, no, es puro email. So, así si no quiere preguntarle [a la maestra], pues normalmente le pregunto a ella [la maestra] y me contesta. A veces voy a la oficina. Y le digo, o pregunto lo que falta preguntar. Pero es lo único que no me gusta que es puro email y entonces como que no es la misma confianza que nosotros teníamos antes.
>
> [Translation] The only thing I do not like right now is that everything is done through email. It is not as if I understand at the same time. In elementary, we always had meetings with the teachers. We had more communication with them. We could count on them and now, no, it is only through email. Therefore, if she [Isabelle] does not want to ask her, I usually ask her [the teacher] and she answers me, or sometimes I go to the office. I ask what is left to ask. It is the only thing I do not like is that it is only through email, and it seems that it is not the same trust we had before.

The moms of Adrian and Rocky, enrolled in regular mathematics, also state that they receive communication about progress reports via email. Adrian's mom confirmed saying:

> Every week there is a progress report that is sent to the e-mail. Yes. The teachers send something saying, "This is what your student has, this is what they're missing. Please have them turn any assignments that they are missing. We try to stay on top of that. That is our job as a parent, to stay on top.

Rocky's mom also confirmed saying:

> They send me constant emails every time they do the progress reports. If I notice that, she has a low grade on something I will email the teacher and I will ask questions. Like, "Did she not turn it in or what did she do?" I try to keep in contact with her teachers that way. It is mostly just when the progress report is sent out.

Rocky's mom further explained that her and the teacher had a professional relationship stating, "We really don't talk a whole lot other than just like I said through emails and just checking up on if Rocky misses an exam, or not exam homework assignment, then just seeing how I can help her or if they have extra credit." Regarding her relationship with the counselor, Rocky's mom gave further insight: "I don't know the counselor; therefore, my relationship with them is bad. I know they do offer coffee with the counselor, but again, it's during work hours so I can't be there."

When asked about their relationship with the campus administrators at the school, the parents of regular mathematics students stated that they knew who the administrators were. Dayanara's dad expressed that he never saw a need to contact the principal, noting he does not need to contact the principal and has not been contacted by one in the past. He stated, "I never get any negative emails coming in or anything like that, so it never really crossed my mind."

Trust or 'Confianza' in School Personnel

Regarding trust, or 'confianza,' most regular and advanced parents have a high level of trust in school personnel. Michael's mom stated that she "highly" trusted them, because she

knew that "they're going to make sure that he's always in a safe environment. He learns, he's got strong curriculum, they're making sure that all of the central content is there." Nadia's mom explained that:

> She is in the best middle school in the school district. It is a very good school and I trust them. I know the principal and what her standards are. I know that they want her to succeed because they want to succeed.

Rocky's mom also claimed a high level of trust:

> I would say it is high. I have not had any problems yet with them or anything. There have not been any incidents. I always do ask Rocky, "Are your teachers nice? Do they treat you good?" I guess I am very protective of her and if she were to tell me well she is this or that, then I would go to the school and talk to them, but this year she says they are all good.

Marco's mom rated her level of trust as a five on a scale of one to ten. She clarified that this was only because she did not communicate or need to communicate with school personnel.

Respect or 'Respeto' for School Personnel

Participants of both regular and advanced mathematics students stated they had a high level of respect for school personnel. Michael's mom, for example, stated, "For the most part, I definitely respect them. They do take care of him, they make sure he's held accountable." Isabelle's mom described her respect for school personnel as 100%, because:

> Todos ellos hasta ahorita, no nos han dado ni motivo, ni discriminación. Ya ves que es como menos hispano allí. Pero no, nosotros siempre nos tratan bien, siempre a veces...el único malo es que a veces en el español no tienen mucha información en español. Hay padres que no hablan mucho inglés. Yo sí lo hablo, sí lo entiendo, y me puedo defender. Pero hay padres que se quedan como voces a la vez. Es que le faltan más comunicación con los padres hispanos.
>
> [Translation] Everyone, all of them up to now, have given us no reason nor discrimination. You see that is how there is less Hispanic here. They always treat us well. Sometimes the only bad thing is that they do not have much information in Spanish. There are parents who do not speak much English. I do speak it, I do understand it, and I can defend myself, but there are parents who remain voiceless in that

moment. It is just that they lack communication with Hispanic parents.

Isabelle's mom went on to state that she attempts to bridge the gap between parents that do not speak English and school personnel:

> Pero a veces le decimos a ellos que sí hay alguien que nos diga en español. Y dicen es que no tenemos esa información. Su hija nos puede ayudar, les puede ayudar realmente. Entonces lo único que, que es lo único malo. Pero no nos tratan mal. Yo digo que el respeto a nosotros es 100% nada más por la falta de comunicación que a veces no tienen con ellos.
>
> [Translation] Sometimes we ask if there is someone who will tell us in Spanish, and they say we do not have that information; your daughter can help us, she can really help. That is the only bad thing, but they do not treat us badly. I say the respect to us is 100%, the only thing lacking is the communication that we sometimes do not have with them.

While both regular and advanced parents invest in their child's education at school with time and encouragement, parents of children in advanced classes also invest financially. Nadia attends a local mathematics-tutoring program, which helps accelerate her learning, three days per week. Her parents pay for her participation in this program. Nadia's mother states that she is completing high school mathematics problems in this tutoring program, so it is helping her succeed in the advanced mathematics course. Nadia's mother also encourages her daughter's interest and plans family vacations around them stating:

> We have tried to make her environment one that encourages learning even when we go on vacation. I know this sounds terrible, but we have not taken her to Disney World, she is not interested in it…She wants to go to NASA all the time. She loves NASA. She wants to go to Roswell because of science and mathematics.

Regular education parents did not for example take their children on university school tours in other states, nor did they enroll their children in a math-tutoring program that individualizes instruction based on an assessment. For the regular education parent, this translates to a relative measure of success to provide a realistic academic commitment. In other words, the regular education parent emphasized that they wanted their child to do well. In

contrast, advanced parents emphasized that their child had 'no choice' but to enroll in middle and high school courses leading to college.

Though strong relationships exist between parents and students, parents in both groups have an awareness that in both regular and advanced classes, they are not being challenged, but they do not act on it. Xavier's mom stated:

> I think he probably gets bored a little bit. I would like to see him more challenged. He never brings home homework, hardly ever has homework. Whatever work is not completed in class he seems to be able to finish at free time in other classes or in homeroom. I do not feel like he has had many challenges. He has never really forgotten to turn anything in, [he] just forgets to put name [on his papers], which has caused a few bad grades.

Nadia's mom expressed a similar statement saying, "I think in her math class she might be not as challenged even though it's an advanced math class because she's in tutoring." This may be an example of parents that have the cultural capital (non-economic resources that enable upward mobility). For Nadia and Xavier's moms, the cultural capital they have is the knowledge to recognize that their child is not being challenged enough in the advanced mathematics course. Regardless they do not activate behaviors that advocate for their child such as going to the school to speak to school personnel about their concerns in an attempt to change the situation.

Participation in Parent Teacher Organizations

The parents of advanced students, Marco, Michael, and Xavier, and the parents of regular mathematics students Adrian, Dayanara, Isabelle, and Rocky state that they do not engage in parent teacher organizations at the school. Rocky's mom stated that she does "pay the fees." Only one advanced mathematics parent, Nadia's mom, had a relationship with school personnel. She did so primarily through the vehicle of participating in the Parent Teacher Association

(PTA) at the school. Nadia's mom also currently works in a school within the district and had previously worked at the school Nadia now attends.

Summary of Parental Relationship with School Personnel

As expressed by parent participants, they vary in the manner in which they have a relationship with school personnel. Some of the more traditional ways of parental involvement in the school is not evident in this stage of their child's academic career. However, it is in other ways that the parents communicate their ideas about how the relationship should proceed in schools. For the most part, parent participants in this study have a high level of trust and respect for the school personnel. Additionally, some parent participants actively find ways to engage their children beyond the classroom in discussions about their future and the importance of their schooling. Communication from the teachers is primarily in the form of email according to all participants. They state that email communication is mostly about their child's progress or missing assignments. If their child had a low grade or missing assignment, then they got an email notification. After this notification, parents state that they initiated contact with the teacher via email, but the teacher did not initiate contact with them other than to send the automatically generated progress notifications. However, this communication from school is not sent home in Spanish.

The next section describes the decisions about enrollment that students and their parents make regarding advanced mathematics courses. In making these decisions, students and parents draw on this previous section's references regarding school personnel. Parents also describe in this section the other academic and non-academic references they use to make enrollment

decisions. The district perspective is presented first, followed by the students, and finally the parents, to compare similarities and differences between the various perspectives.

Decisions about Enrollment

District Perspectives Regarding Decisions about Enrollment

Decisions regarding enrollment in advanced mathematics are left to the parent and student according to district administrators, the counselor, and the two mathematics teachers. In the previous section, Sabrina, the counselor, and Joanna and Cassidy, the two mathematics teachers agreed that Latino parents exhibit positive communication and behaviors regarding the student's participation and their academic enrollment processes. Mary stated that encouraging behaviors of Latino parents included their "being supportive, thinking long-term, and wanting their child to perform at a high level."

The middle site had a 37% Latino total school enrollment, and they currently have 35% of Latino students enrolled in advanced mathematics. As compared to statistics across the nation as well as in Texas, these figures indicate a small gap exists between the total school enrollment of Latinos and their advanced mathematics enrollment at this middle school. Therefore, 94% of Latino students at this middle school are enrolled in advanced mathematics.

When discussing the high percentage of Latino students enrolled in an advanced mathematics course at their campus, Jennifer stated that it could be attributed to parents having proximity with the enrollment processes, possibly because of older siblings that have gone to the same school. In other words, for students that have older siblings that have already experienced the enrollment process, it has prepared their parents to be in proximity to enrollment processes for advanced mathematics courses. However, Jennifer, Mary, and Sabrina expressed that the

Latinos that did not enroll in advanced mathematics also faced certain barriers for enrollment such as not speaking the (English) language. This they said could be a reason that some Latino parents may not have understood the benefits of their child enrolling in advanced mathematics courses and subsequently did not enroll.

The district is aware of the cultural barrier parents may experience gauging student performance, and they have taken action with this is mind. Mary stated that the process for placing and recommending students based on multiple entry points allows all students to have "equal opportunities to enroll in advanced mathematics." However, it is still unclear if this has actually helped re-capture any students that previously did not enroll in advanced mathematics. The district is still collecting information on the number of students that enroll at later entry points.

District administrators Jennifer and Mary stated that Latino students do not show more aptitude or affinity for taking advanced mathematics courses than other demographic groups. They also stated that the data collection processes they have developed in the district has encouraged school leadership teams to have conversations with parents about the course and their child's projected aptitude in the course. Furthermore, Mary stated that specific characteristics of students driven to take advanced mathematics courses does not differ by demographic groups. Mary stated, "Students that take advanced mathematics are generally hard working, good at math, and push themselves to do the work required in the course according to the district."

Campus Perspectives Regarding Decisions about Enrollment

In discussing references used for making decisions about enrollment, Sabrina, the school

counselor stated that she told the students:

> If you are strong in math, really like math, and you are willing to do a little bit of challenging work, then Pre-AP might be the choice for you. If you just feel like you are good in math or maybe you have things going on and you feel as if you just want to take on-level sixth grade math then that is fine too.

She also stated that during guidance lessons, she encouraged students to remember the following:

> Your job is to do well in school. Your parents want you to do well in school. They want you to be successful adults. They want you to get jobs. They want you to move out of their house. They do want you to succeed. My whole point of that is if you need their help in creating a place, they are not going to say no. I did not say it exactly like that. Because they want you to succeed. They want you to do well in school.

When considering reasons why parents might not select advanced mathematics for the student, she believes the parents might not understand "the benefits," or might not "believe that their kid can do it." Sabrina also mentioned the parent's prior schooling experience as a possible reference for the decision of enrollment. She thought maybe the parents "didn't have a good school experience or struggled themselves," but she emphasized that this is her observation of all parents, not just Latino parents. In addition, she expressed concern that parents may not "know to push their child to try advanced mathematics, because they are unsure of what advanced mathematics means for their child. Sabrina stated that she suspects some parents do not know that advanced courses in middle school lead to advanced course enrollment in high school.

Joanna, the advanced mathematics teacher, stressed that students may be acting on references regarding decisions about enrollment in advanced courses from other students, or their parents. Joanna stated:

> Many of my students I would not consider as necessarily [good to be in] advanced mathematics, but because usually all their friends are in the advanced class, they are in there. That causes them to struggle because of the higher level and the more rigorous curriculum. A true advanced [student] you can always tell because they are competitive.

The counselor and two mathematics teachers, acknowledge various academic references that students and parents draw on to make enrollment decisions. They all agreed that students taking advanced mathematics at this early stage in their education leads towards a trajectory that sets them up to take later advanced mathematics courses. This section provided the campus perspective as to what parents reference when making decisions of mathematics enrollment. The next section reveals what students shared regarding decisions about enrollment.

Student Perspectives Regarding Decisions about Enrollment

Advanced Mathematics Students

In exploring the advanced students' long-term aspirations, we can gain some insight into the references they draw on regarding their decisions for enrollment. Marco, Michael, and Nadia all aspire to become engineers. Marco described his aspiration and stated that if he cannot become an engineer, he will become a technician in electricity or plumbing but will always use mathematics in his career. Michael first knew that being an engineer was his aspiration after visiting colleges in Colorado, Florida, and New Mexico, so that his sister could tour colleges in those states. Michael described the experience:

> We went to Colorado, which is my favorite place to go every year. We went there. We went to a college. I saw these pamphlets all over the wall. I got one. Robotics engineer. It asked all these questions. I love to do all those, so I looked at that and I kept it. I wanted to do that.

Looking ahead, Xavier stated that he knows he will continue to take advanced math saying that it is because he has "always been kind of successful academically." Rocky stated that her aspiration to become an engineer is because, "I want to get into MIT or some other school, as long as I go to college."

Regular Mathematics Students

Three of the regular students, Rocky, Isabelle, and Dayanara, shared their aspirations about their future career. Rocky, a regular mathematics student, shares in Michael and Nadia's aspiration of becoming an engineer. However, her decision to enroll in regular mathematics was because "it [advanced mathematics] puts stress" on her. She further stated that her grades would drop because of taking an advanced mathematics course, and that is the reason why she has not enrolled yet.

Isabelle enrolled in regular mathematics, because she was unsure how hard "the math was in middle school before [she] actually went into Pre-AP." Isabelle reflected on this year in a regular mathematics course, and she said that it "isn't that hard." Dayanara on the other hand was intentional in letting the researcher know that her plan was to enroll in advanced mathematics next year. Dayanara's dad originally enrolled in advanced mathematics, but due to boundary re-districting, she did not get into the advanced class at her new school. Her reference for her decision was because she "thought it would be a fun experience." She was eager to learn "eighth grade stuff in seventh grade" next year.

Student participants share many insights as to the academic references they access in deciding their enrollment in mathematics courses. Students can have their own perspectives about decisions about enrollment, but the above section demonstrated that the level of perceived difficulty of the advanced mathematics course and also their parent's encouragement to take the course could influence students heavily. It is worth exploring, and the following section provides more information on what academic references Latino parents use to influence their decision-making.

Parent Perspectives Regarding Decisions about Enrollment

Parents of Advanced Mathematics Students

For Michael, Nadia, and Xavier, their proximity to the enrollment process because of their child's older siblings may have helped them in their decision. For example, Nadia's mom shared that because Nadia has older siblings, "she knows that once you're up to middle school, there are more options."

This is an example of parents initiating 'cultural capital activation' behaviors for the benefit of their children. By using the knowledge that course enrollment in sixth grade would lead to later enrollment in high school and beyond, the parents of advanced mathematics students activated the behavior of enrolling their child in the course to advance their child's academic interest. In addition, advanced mathematics parents sought opportunities to engage their children in the discussion about the connection between the advanced mathematics courses to their later enrollment in college. For example, Michael, an advanced mathematics student, attended university tours with his older sister. It was during one of the tours that he decided he wanted to be a robotics engineer. Michael's mother stated that it is this drive to be a robotic engineer that he enrolled in advanced mathematics and told him that because of his career goal, "It's not a choice not to go into advanced mathematics courses."

Parents of students in advanced mathematics also took into account their child's mathematics aptitude. In other words, they considered how their student would do academically in the advanced mathematics course. However, they coupled that decision set with knowing the importance and long-term gains for enrolling in advanced courses. Michael's mom stated that he "knows what is expected of him." She continued to state: "We start talking about college right

away. The choice is what college to go to, not whether or not you are going to college. That is just something we have instilled in them, in all three of them."

Xavier, another advanced mathematics participant, has a career goal of becoming a robotics engineer. Xavier's mom knows that "math is his strength", but in his case, his mom also guided his decision to enroll in advanced mathematics by communicating with Xavier the importance of advanced courses for his chosen career. She stated:

> Sometimes he says he wants to be an engineer, and I know that he will have to do some advanced math in high school and college to get there, so he has to start now. For me, I of course would love to save money on college courses later, so if he can do Pre-AP now, AP in high school, take the test, and have that college credit, which would be wonderful.

For Marco, his mom based her decision on her own experience taking regular mathematics courses. Since the school communicated to her that Marco would do well in advanced courses, and she remembered her perspective of what the advanced courses would consist of, she figured that it would be a good choice for Marco to enroll in advanced mathematics. Marco's mom asked Marco how he felt about enrolling in the advanced course, and he agreed. She stated:

> I communicated with him of course and asked him how do you feel about it? He asked if it would be hard. I told him if he thought he was ready for it then he should try it out. He has been doing well in advanced classes since.

As evidenced by their statements, parents of students in advanced mathematics were intentional about enrolling their child in advanced mathematics. They explained that their child would need the advanced mathematics courses later to enter college or university. Parents in this group used this knowledge as a basis for their decision to enroll their child in the advanced course.

Parents of Regular Mathematics Students

Parent participants of regular mathematics students did not view their child as especially high in mathematics or they did not believe their child liked mathematics. For example, Adrian's mom stated that she did not place Adrian in the advanced course, because that "is not a subject her child likes." Similarly, Isabelle's mom stated that she did not view her child as particularly strong in math and therefore did not enroll her in the advanced mathematics course stating:

> Es curioso, nosotros no pensamos que está fuerte en matemáticas. Entonces cuando nos dijeron que estaba muy alta en matemáticas, yo me arrepentí que este año yo no la puse en Pre-AP math.
>
> [Translation] It is interesting; we do not think she is strong in math. Therefore, when we were told that she was very high in math, I regretted that this year I did not put her in Pre-AP, mathematics.

Similarly, Adrian's mom chose to have him start advanced coursework in another content area that he liked before attempting to place him in advanced mathematics. She stated that she did this to ensure that he would be successful first, before adding more advanced classes to his schedule.

> I know we got the paper to try to sign them up for Pre-AP classes. If it were up to dad, he would have signed up for everything Pre-AP. I kind of had to put the brakes on that, and tell dad that we needed to maybe start with something that he liked, then if that was a success, we can move on to other Pre-AP, but not do everything Pre-AP.

Parent participants of children that enrolled in regular mathematics seemed to be primarily concerned about the level of difficulty of entering an advanced level mathematics course. They also seemed concerned about the level of stress their child would develop because of the difficulty of the advanced mathematics course. Therefore, for parents of students in regular mathematics, aptitude or affinity for mathematics determined enrollment instead of purpose.

Parents of regular mathematics students were also unaware of long-term consequences tied to the choices of enrolling in advanced mathematics. Instead, parent participants emphasized that college enrollment would be a marker of success for their child and compared that to their own level of education. For example, if the parent did not attend college and the student will, then that is the marker of success, since the child will exceed the parent's education. Isabelle's mom for example measured success relative to her and her husband's family educational attainment. When asked specifically what the definition of success in school was, Isabelle's mom replied, "ser mejor que sus padres y sobresalir en todo." [Translation] "To do better than her parents and excel in everything." When asked specifically what allows her child to be successful at school, Isabelle's mom answered:

> Digo que la forma de vida que tenemos. Las posibilidades que tenemos. Somos inmigrantes y no es lo mismo. Somos de una familia pequeña pero también muy unida, so creo que eso también le ayuda mucho en pensar que puede llegar a hacer más que uno o más que todos lo que se pueden hacer.
>
> [Translation] I think it is our way of life. The possibilities we have. We are immigrants and it is not the same. We are from a small family but also very united, so I think that also helps a lot in thinking that she can do more than one (person) or more than what others can do.

Interestingly parents of regular mathematics students stated that their children are successful in mathematics if they do not fail the class or if they are earning A's in the course. Only one regular parent, Dayanara's dad, stated advanced placement credit was an important reason for his daughter to be successful. Her dad was unique though in that he originally enrolled her in advanced mathematics, but due to district rezoning that occurred in late spring, he missed the deadline to enroll his daughter at her newly assigned school. In addition, Dayanara had an older brother. He stated that he knew about the importance of advanced placement courses, because he was very active in his son's enrollment process just a couple of years before.

He recalled that when his son was in middle school, he attended orientations and meetings where he asked questions about the differences between the courses:

> We went to an orientation at the school, and I am not sure if they went into the Pre-AP a lot in the whole orientation. I know they had a slip that we could fill out going over their electives and what [class] they could get in.

Dayanara's dad expressed that he felt the regular mathematics course was not challenging enough. When asked if she planned to enroll in advanced mathematics in her seventh-grade year, he said:

> I would like to get her in advanced classes. I think it would be better for her if we move her forward… like getting her into colleges. I think whatever she does now will have an effect on whatever she is able to do later.

For Adrian, also a regular mathematics student, the discussions about college were currently a topic of much conversation at their house during the time of the interview. Adrian's mom stated that:

> We are actually going through that with my daughter, so he understands how important that is. [He understands] how mom can sometimes be annoying, but it is because nobody was ever on mom, so mom needs to be on everybody.

Rocky's mom also expressed her thoughts about plans for enrolling her daughter in advanced mathematics. She stated that she thought her daughter might continue to be in regular mathematics, because:

> We do not really know anything about advanced placement. I think once they get to high school is when they offer more opportunities.… I do not know what is going to happen in the future and if she wants to go to that [charter] school then I think it will be a good opportunity for her. As far as in this school district, I do not know what they offer if they have anything.

In this case, Rocky's mom was only able to access references, because of her experience with flyers she received from other schools in her area.

Isabelle's mom expressed a similar experience stating that she was not aware that she should be thinking about course enrollment for college at this early stage in middle school:

> La semana pasada nos dijeron apenas que podíamos ir a una website. Yo no sabía que era tan rápido. Ya ve que en high school es cuando uno empieza a buscar becas y exámenes y todo eso, pero nos dijeron que hay una website para que ellos empiecen a meterse y ver que carreras ellos más o menos están inclinados y empezar hacer exámenes. Nosotros no tenemos tanta información de eso.
>
> [Translation] Last week we were barely told that we could go to a website. I did not know it was so fast. You see in high school is when one begins to look for scholarships and exams and all that, but they told us that there is a website that we can [go to]. We do not have that much information about it.

Summary of Decisions for Enrollment

The parents in this section accessed a variety of academic references to make course enrollment decisions with their students. In some cases, like those of advanced mathematics students, these references included parents' previously held philosophies about attending college. In other cases, for advanced mathematics students, it was proximity to the enrollment process through other siblings or family members. With the exception of Dayanara, parents of regular mathematics students associated advanced placement with their child's academic or personal disposition in that content area instead.

Summary

This chapter began with an introduction of district and campus personnel that included the two district-level administrators, the school counselor, and two mathematics teachers. Their introduction helped clarify how they viewed their role in the process of assisting students with enrollment in advanced or regular mathematics. District personnel also shared their perspectives on what are the characteristics of students taking advanced mathematics. Following this brief

introduction came the introduction of the eight student participants. Student participants shared their career goals and what they felt contributed to their success in mathematics. In this section, the researcher briefly included some details of the family such as how many children they had that had been through the enrollment process including the student participant selected for this study.

The remainder of the chapter was organized thematically through the lenses of cultural capital activation and funds of knowledge where appropriate. The findings in this chapter provided the perspectives of district personnel in comparison to the perspectives of students and finally parents. This contrast helped illuminate key markers in student's enrollment decisions for sixth grade mathematics. Those markers were categorized into four categories: the enrollment process, communication about curriculum content, parental relationship with school personnel, and decisions about enrollment. In the next chapter, I explore the conclusions as well as the possible implications for education and research.

CHAPTER 5

DISCUSSION OF FINDINGS

> *Education is transformational. It literally changes lives. That is why people work so hard to become educated, and that is why education has always been the key to the American Dream, the force that erases arbitrary divisions of race and class and culture that unlocks every person's God-given potential.*
>
> Condoleezza Rice

The missed potential of students is something that educators discuss frequently. Lengthy discussions ensue surrounding the missed potential of students. Some of those discussions lead to action on the part of educators to decrease the negative effects of unrealized potential in students. In this study, special emphasis was given to the missed potential or opportunity of Latino students in advanced mathematics courses.

Overview of Study

The academic success of Latino students is of importance particularly at a time when their population is increasing rapidly. Policies affecting Latino students' learning opportunities, enrollment in advanced courses, and attainment must be continually evaluated for effectiveness. Despite an increase in the total number of enrollments at degree-granting institutions in the United States, the National Center for Education Statistics (NCES) found that Latino students constituted less than 34% of the total enrollments from 2007-2013 (NCES, 2014). Alternatively, Whites accounted for 59% of the total enrollments during that same period (NCES, 2014). Even more concerning, only 15% of the 34% Latino students that were enrolled at degree-granting institutions obtained a degree as compared to White students, whose graduation rate was 66% (NCES, 2014). In response to the low percentages of Latino students enrolling and attaining

college degrees, focus has shifted to looking at the Pre-K-12 opportunity gap.

Studies are looking at the specific variables that may increase enrollment of students of color in college and have reported that enrollment in Advanced Placement (AP) courses in high school are strong predictors for enrollment and performance in college (Alexander & Cook, 1982; Duran, 1983; Eddy et al., 2015). As recently as 2012, it was reported that White and Asian students were still overrepresented in higher track classes in high school while African American and Latino students were disproportionately overrepresented in lower track courses (Archbald, Glutting, & Qian, 2009; College Board, 2012).

As a result, the continued gap and representation of minorities in lower track courses in high school has created de facto tracking for Latino students. Researchers continue to probe into the disproportionality of students of color enrolled in advanced and dual credit mathematics courses and have suggested that schools must deliberately and pro-actively look at reasons why enrollment patterns have remained disproportionate along ethnic lines (Kao & Thompson, 2003; Rigile-Crumb & Grodsky, 2010).

Research studies on students of color have explored *social capital* as a theoretical framework to explain the gaps found in enrollment of Latino students in concordance with such factors as motivation and parental involvement (Finders & Lewis, 1994; Garcia-Reid, 2007). Continued exploration into the theory of *social capital* as applied to different demographic groups has led researchers to develop specific actions that are said to be utilized along socioeconomic lines, with middle class parents' behaviors including things such as assisting with homework or contacting the school (Lareau 2000, 2002; Lareau & Calarco, 2012; Lareau and Horvat, 1999). However, other studies have suggested that Latino parents demonstrate involvement in varying ways (communicating with their children the value of education, for

example) that are not necessarily valued by the traditional school systems they encounter (Garcia & Guerra, 2004; Guerra & Nelson, 2013).

Similarly, other studies are limited in addressing students and families of color often times because of a language barrier (Villenas & Deyhle, 1999; Villalpando & Solórzano, 2005). In other words, researchers have attributed the absence of perceived Latino parental involvement to deficit perspectives in schools, in that they do not value the same parental involvement actions that are found within Latino families (Guerra & Nelson, 2013; Valencia, 1997; Valenzuela, 1999). For this reason, researchers suggest that Latino families exhibit other forms of social capital that are typically not valued in the dominant narrative of schools (Stanton-Salazar, 2011; Wong & Hughes, 2006).

Problem Statement

Much of the current research has been focused on the transition from eighth to ninth grade, since that period is a determining factor for enrollment in Algebra I in schools (Fong, Melguizo, & Prather, 2015; Harvard, 2013). There has been a growing trend in schools initiating universal and selective policies of enrollment of students in Algebra I in eighth grade. Still, research has argued that enrollment patterns begin much earlier in the elementary grades (Alexander & Cook, 1982; Archbald & Farley-Ripple, 2012; Chen & Kaplan, 2003; Goldschmidt & Wang, 2003).

Despite this, few studies have been conducted to look at the formative period between the transitions of elementary to middle school (fifth and sixth grades) where enrollment patterns are first established. Research using quantitative methodology has sought to determine causal factors and predictability of enrollment patterns based on demographic variables (Storlie,

Moreno, & Portman, 2014). Still, few studies have focused on exploring the perspectives that Latino parents can offer as to why or why not their children enroll in advanced mathematics coursework at any point in their academic studies (Storlie, et al., 2014).

Additionally, while much of the research uses quantitative methodology to determine causal factors and predictability of enrollment patterns based on demographic variables, few studies have focused on exploring the perspectives that Latino parents can offer regarding student enrollment in advanced mathematics. The present study utilized cultural capital activation and funds of knowledge theories as conceptual lenses for understanding the role that Latino parents and district personnel have in the advanced course enrollment of Latino students. New perspectives and understandings in this area could help schools and, perhaps, districts seek intentional recruiting factors that have the potential of higher enrollment of Latino students in advanced mathematics courses.

Purpose of the Study

This qualitative study used a phenomenological approach to frame the methodology and analysis of this study, which included semi-structured interviews of eight sixth-grade students, their mother or father, two mathematics teachers, a counselor, and two district administrators. The first data source utilized for this study was the middle school site's 2016 state assessment data disaggregated by ethnicity. The state assessment scores were used as the defined metric for determining the moderate to high-achieving Latino students and were rank-ordered to identify high-achieving Latino students that enrolled in both regular mathematics and advanced mathematics in sixth grade in the 2016-2017 school. The second data source for this study included semi-structured interviews of eight students, their parent, two mathematics teachers, a

counselor, and two district administrators.

This chapter summarizes the key findings based upon the data presented in Chapter 4. It also provides a description of the possible implications for action and their significance, as it relates to further research. Recommendations and limitations are also discussed.

Research Question 1

The first research question was: What is the role of parents, students, teachers, counselors, and school administrators in enrollment decisions for mathematics courses? Stein et al. (2011) found that school policies regarding Algebra I enrollment fell into two types: selective and universal. Selective policies, they determined, were ones that contained a mechanism by which students had restrictions for enrolling in the course. Students in schools with selective policies for enrollment were less likely to be underprepared for later mathematics courses. Universal policies were deemed those that allow access of Algebra courses to all students in eighth or ninth grade. Their concern for universal policies came from the findings of their study showing that watered-down versions of Algebra I was sometimes apparent in courses in schools that adhered to universal enrollment policies.

The Role of District Personnel

The data showed that the district utilizes a selective process for enrollment of students into advanced courses. This selective process included six different data points: a district developed placement exam, a state developed algebra readiness screener (MSTAR), report card grades, local assessment grades, end-of-year mathematics course grade, and teacher feedback. By analyzing the various data points, the district progressively developed a systematic method

for identifying potential candidates for enrollment in advanced mathematics. This process included communication with the middle school site about the process of identifying students using both quantitative and qualitative data. The data are used to devise a student profile that will assist campuses in communicating with parents and students the recommended mathematics course.

Data indicated that the counselor visited three of the six elementary feeder schools to specifically discuss middle school course enrollment. That is a total of half of the feeder schools to the middle school site. Since the counselor is considered one of the "gatekeepers" of knowledge regarding advanced course enrollment, the district's systematic recommendation process did not capture all students that may have done well in the advanced course.

Merton (1988) suggested that both the counselor and administrator serve as "gatekeeper" to Algebra enrollment, and the findings of this study aligned with his research. By scheduling all students, the principal determined which students enrolled in advanced mathematics using the recommendation from the district as well as parent choice as a guide. In instances where either were in disagreement, the counselor took on an active role of contacting the parents.

Still, the data suggested that the parent perspectives of the communication from the school about advanced mathematics varied. While the counselor and administrator typically served as the 'gatekeeper' in schools, that is the person that has the most information regarding the enrollment processes, in this study, the fifth-grade teachers also acted in that role. In some cases, teachers communicated directly with students and parents letting them know that their child would do well in an advanced mathematics course, while in other instances; parents did not recall any communication about the student profile and recommendation. Specifically, some

parents recall that the teacher talked to them directly about their child's aptitude for mathematics while others did not.

The difference in the parents' recollections could have been a result of different communication strategies at the six feeder schools. Based on the findings, and in contrast to earlier findings (McKillip, Rawls, & Barry, 2012; Schmidt, Hardinge, & Rokutani, 2012; Stanton-Salazar, 1997) that stated that the counselor served as the gatekeeper in schools, this finding suggested that teachers might also serve as the "gatekeepers" at the feeder schools to the selected middle school. Teachers serve in this capacity by being the ones that have specific information regarding each student's mathematics aptitude and their recommended placement for the following school year.

The Role of Students and Parents

Both advanced and regular mathematics students stated that the decision of enrollment was made by their parents along with their own input. For some, that decision was optional after attending an orientation and filling out a form. The Latino parents in this study recalled the form as a check box to enroll in either regular or advanced coursework. However, even though the district stated that they gave information about the curriculum content of both courses at the orientation or in the course guide; parents do not recall the differences in the courses being emphasized. Parent participants of both regular and advanced mathematics students stated that they played an active role in their child's course enrollment. Therefore, it is possible that district personnel viewed the communication via the form as a means for getting something back from the parents rather than means of communicating important information about their choices.

Research Question 2

The second research question in this study was: Why are high achieving Latino students enrolling or not enrolling in advanced mathematics courses in sixth grade? The reasons that the various participants gave for why high achieving Latino students enrolled or did not enroll in advanced mathematics courses in sixth grade varied. From the district perspective, they determined course content and gave the responsibility for communication about course differences to the campus principal and counselor. They also included a short description in the course guide for both the regular and advanced mathematics courses, which was passed out to parents at the orientation. While this addition was intended to help parents distinguish the differences between the two courses, it may have been more beneficial if the description also included references to the trajectories established by enrolling in advanced courses in middle school.

Advanced Mathematics Enrollment Trajectories

Parents of the present study indicated that they received information about the courses, but it did not include information regarding trajectories for college entrance and/or attainment. In communicating this important detail to parents, the district could have helped Latino parents add to their cultural capital base by providing them with knowledge about the importance of advanced mathematics enrollment to later high school and college trajectories. The goal would be that the parents would use this cultural capital to activate behaviors, such as advocating for their child to enroll in advanced mathematics, instead of allowing their child's aptitude or affinity for the course be a factor in their decision.

Findings suggested that parents that were aware of the connection between enrollments in

advanced courses to later college attainment trajectories enrolled their student in advanced mathematics. For advanced students, parents did not give their child the option to enroll in regular mathematics. Parents of advanced students insisted on their child's enrollment in advanced mathematics to attain their own college and/or career goals. The parents that understood the importance of enrolling in advanced mathematics for later trajectory into college did enroll their child in advanced mathematics.

Researchers Archbald, Glutting, and Qian (2009) determined that enrollment patterns are more important to later trajectories and college attainment than any other variable. Additionally, enrollment in Algebra I was found to be the strongest predictor for enrollment and performance in college (Alexander & Cook, 1982; Duran, 1983; Eddy et al., 2015). "Viewed as the gateway to higher mathematics, postsecondary educational opportunities, and technically skilled jobs, algebra enrollment has been identified as a serious equity and civil rights issue" (Stein, Kaufman, Sherman, & Hillen, 2011, p. 454). At this middle school, the district has systematically captured a large number of Latino students resulting in a closing of the gap between their total enrollment and advanced course enrollment. They use six data points to holistically rate students on their likelihood to succeed in advanced mathematics.

Since the district has a systemic way of creating a profile, and it prioritizes enrollment in advanced courses based on this profile, it may have increased enrollment of high-achieving Latino students in advanced courses if the district created opportunities for parents to have discussions regarding advanced course enrollment trajectories in mathematics and college attainment. As was expressed by the parent participants, their contact with the school only occurs if their child has declining or missing grades. Parents of regular mathematics students specifically expressed that they do not typically communicate with the school as most

communication is sent via email and focused on academic progress or homework completion.

Interestingly, several district personnel believed that the information about the differences in the curriculum content was "lost in translation." However, only two of the eight parent participants cited language as a barrier to communicating with campus personnel. Following that same line of thinking, it could be that Latino parents do not understand the benefits of the advanced course, because they were not explained it in a way that gives them the information they need to see the benefits of the advanced mathematics course. As a result, parents of regular mathematics students did not have the awareness of the importance of middle school advanced mathematics for a long-term trajectory towards college enrollment and attainment are at a disadvantage. Once the district communication was neutralized as a causal factor, the parental perspectives became the most revealing and transparent source of insight into student advanced mathematics enrollment outcomes.

Parental Academic References

Parents of regular mathematics students stated that their children were successful in mathematics if they did not fail the class or if they earned A's in the course. Unfortunately, these reasons do not necessarily reflect college readiness. The parents had a narrow frame of reference for getting the information about regular versus advanced mathematics in that they also made decisions on enrollment based on what the students said regarding their own aptitude and ability for mathematics. This could be a reason that parents of high achieving students may not have enrolled their child in advanced mathematics. Contrast that to the decisions made by the parents of advanced mathematics students that did not give much weight to their child's interest or perceived aptitude in mathematics.

The disconnect between district communication and parental perception is an underlying issue of visibility. The district sees parents that are familiar, while parents are merely proximate to processes that are foreign to them in the detailed progression of student placement systems and, more importantly, in the long-term significance to their student's lives. Adding specific language to the course enrollment guide about the importance of enrollment in advanced courses could have been a critical piece for districts in creating successful present and future academic trajectories. However, parent behaviors the district believed were a result of familiarity with the curriculum content were actually a reflection of the parents' proximity to enrollment processes. Parent's previous second-hand experiences of having an older child that had gone through the enrollment process in the past, indicated the parent's proximity to, not familiarity of the enrollment process. Coleman (1988) referred to schools as an enclosed network where parents develop relationships that allow them to gain knowledge about shared norms in their community. His study helped to narrow social capital theory to include specific behaviors or actions that helped facilitate higher levels of social capital. In other words, people interact in social relationships with others in order to promote certain outcomes.

The district's intentions of communicating with parents were made inefficient because what the district perceives as positive parent behavior is masking the lack of strategic parent understanding, especially as evidenced in the perspectives of parents of regular mathematics. The agent of change then is the school. It has the ability to create a more targeted communication plan for Latino students and their parents that includes specific information about the importance of advanced mathematics enrollment at this early grade. The school can also help facilitate parental interactions that would increase social relationships with each other. If the school focused the intent of these social gatherings around topics such as advanced

mathematics trajectories, parents could gain knowledge that could help them make decisions of enrollment based on college readiness, rather than the student's affinity or aptitude for mathematics courses.

Research Question 3

The third research question in this study was: How are these efforts reflected in Lareau's (2002) model of *cultural capital activation* theory? Researchers asserted a long history of *cultural deficit* perspectives and *subtractive schooling* practices towards students of color (Solórzano & Ornelas, 2004; Solórzano, et al., 2005; Villalpando, 2002). According to their research studies, cultural deficit perspectives have contributed to an increase in the disproportionate number of Latinos enrolled in advanced mathematics courses. Cultural deficit perspectives, as they pertain to education, is viewing students or their families by their weaknesses rather than their strengths (Solórzano, et al., 2005).

In research on Latino parent involvement, examples of deficit perspectives could include measuring parent involvement along traditional middle school values such as helping with homework and contacting the school (Horvat, Weininger, & Lareau, 2003), without regard to other practices that have traditionally not been studied. The next sections discuss the findings as it relates to the traditional measures of parental involvement for the participants of this study. Specifically, the following sections explore parent involvement efforts reflected in Lareau's (2002) cultural capital activation theory as applied to this study.

Assistance with Homework

One parental involvement effort included in the literature is parent assistance with

homework (Gonzalez-Dehass et al., 2005; Lareau & Calarco, 2012). For most of the parent participants of both groups in this study, it was stated that they themselves rarely helped their child with mathematics homework unless their child had difficulty in the course. In most of these instances, it was either the other parent or another family member that assisted the student with homework. Several also reported that when their child had difficulty, it was more common for their student to use a Google search engine to help answer questions and solve mathematics problems. Since both advanced and regular mathematics parents did not generally assist with homework, this finding suggests that the activation behavior was not present for the eight parents of this study. This is in contrast to the findings in Lareau & Calarco's (2012) study, which found that parents helping with homework were a common activation behavior of the students in their study.

Discussions about School

Latino parents in both groups often had discussions with their children about school. Lareau (2002) found that discussions about school were a common characteristic for parents activating cultural capital behaviors in her study. For parents of advanced students of this study, discussions about school were focused around their child's future career goals. In contrast, parents of regular students stated that discussions about school with their child was mostly about their aptitude and ability in mathematics. For regular mathematics students, discussions about aptitude and ability in mathematics verses future career and college readiness goals, led to student becoming the academic reference for parents. As such, if a regular mathematics student told their parent that they did not think they would do well in advanced mathematics, then the parent they did not push their child to enroll in the advanced course. Since the difference

between parents of advanced and regular students was the actual content discussed, rather than the amount of discussions they had with their children about school, targeted discussions focused on career goals could increase the emergence of this activation behavior influencing enrollment decisions.

Contact with the School about Child's Progress

In both groups, Latino parents did not contact the school about their child's progress unless they received an email notification that they had missing homework or low grades on an assignment. Both groups of parents expressed that they noticed a difference in the type of communication they experienced now and when their child was in elementary school. As discussed, only two parents mentioned that the communication should also be sent in Spanish. Lareau (2012) found that contacting the school about their child's progress was an important activation behavior of parents in this study. Since Lareau's (2002) study did not include Latino students, this study aimed to explore how this and other activation behaviors applied to Latino parents of this study. For parents of this study, contacting the school about their child's progress did not appear to be an activation behavior that had significance. Therefore, the findings contrast the findings of Lareau (2002) regarding parents contacting the school about their child's progress.

Participation in Parent Teacher Organizations

While participation in parent teacher organizations is not mandatory, there is some thought that membership in these organizations can increase parental involvement (Horvat et al., 2003; Lareau & Calarco, 2012). Thinking along terms of more traditional forms of parental

involvement, for the participants of this study, parent teacher organizations (or that type of involvement) was not about parent relationships with school personnel. Involvement in parent teacher organizations is more about increasing cultural capital (Lareau, 2002). For two parents of regular mathematics students, Isabelle and Rocky's, their moms had conversations with other parents about their child's enrollment in classes and other school related topics. They did not engage in conversations with other parents within the confines of an organized school function. In fact, only one parent stated that they were a member of the parent teacher organization at the campus. As such, this construct did not have a significant role in describing the activation behaviors of the Latino parents in this study.

Participation in Helping Their Child Prepare for College Entrance Exams

Parents were asked about their own involvement in preparing their child for college entrance exams and none of the parents in both groups stated that they had done so. Many were surprised by the question, as it did not make sense to some of the parents to start this preparation at such a young age. Lareau (2002) found that for the high school students of her study, parent participation in helping their child prepare for college entrance exams surfaced as a cultural activation behavior that increased continued enrollment of students in advanced mathematics courses. Since the parents of this study had students that were in sixth grade, it is logical that this question did not yield any usable data for participants of this study.

Research Question 4

The fourth research question in this study was: How are these efforts reflected in Gonzalez, Moll, and Amanti's (2005) model of *funds of knowledge* theory? The current study

utilized *funds of knowledge* theory (Gonzalez, Moll, & Amanti, 2005), an asset-based approach, which could help us gain knowledge about parent perspectives on Latino student enrollment in advanced and regular math courses in sixth grade. By looking at family culture as a dynamic process, funds of knowledge helps view parental practices as a resource rather than something that is lacking.

For most families, the parents made education decisions, with some negotiation on the behalf of students' gravitation towards spaces of their liking. For both regular and advanced students, the data showed strong parent and child relationships. This relationship and its rigidity or flexibility, prefaces educational decisions and decision makers in families. This is meaningful in that parents state that the academic references they receive from their child are meaningful, whereas the ones they get from the school are informational. In the case of enrollment in advanced mathematics, it may be that parents that receive academic references from their child are thought to be at a disadvantage. In addition, the strong parent and child relationship that drives these decisions could also be viewed as a disadvantage for Latino students. Yet, if we consider funds of knowledge when viewing this strong parent and child relationship, it could be that this reciprocal relationship of trust and respect between the two could lead to other positive student attributes such as confidence, motivation, and independence (Finders & Lewis, 1994; Garcia-Reid, 2007).

Trust or 'Confianza' in School Personnel

Researchers recognize that parental involvement may look different in various demographic groups, and that schools have typically focused traditional parental involvement activation behaviors while ignoring non-traditional behaviors or 'funds of knowledge' that

parents demonstrate (Brown, 2007; Gonzalez, Moll & Amanti, 2005; Villenas & Deyhle, 1999). One construct in particular guided research question four in this study, and that was trust or 'confianza' that Latino parents had for school personnel (Gonzalez, Moll & Amanti, 2005). Parents of both regular and advanced mathematics students expressed a strong amount of trust or 'confianza' in the school personnel. Though they stated that they do not have contact with the school principal or counselor, they still have a significant amount of trust in them. While the trust that Latino parents have in the school and its personnel was a theoretical construct derived prior to the study, it did not appear to be a key finding. All eight parents answered the question directly asking them about their level of trust, but they did not expand on their reply. Additionally, the eight parents did not express the term "trust" at any other point in the interview.

Respect or 'Respeto' for School Personnel

Similar to the trust that parents of both groups had in school personnel, they also expressed that they had respect for them. They also stated that they communicate that message to their child in that they expect their child to show respect to school personnel. Like trust or 'confianza', this fund of knowledge was considered as a possible theme that may emerge in the data as told through the voice of the participants. However, it too was only emphasized after the question was asked specifically about their level of respect in school personnel, and it did not emerge as a theme in the analysis of the interview data of the eight parents. As discussed, since the nature of coding in qualitative data analysis is a continuous cycle of reflection and re-working of the data within the analysis, deviant cases, if found were also analyzed (Bryman, 2012; Charmaz, 2003; Miles, 1979). As such, it is important to understand that the initial coding

did not reveal ‘trust‘ and ‘respect’ as trends, the reality or truth as perceived by the participants ended up looking differently than intended from the research study (Bryman, 2012).

In reviewing the findings, district personnel may not be considering the funds of knowledge that Latino parents exhibit, such as ‘confianza’ or ‘respeto,’ because Mary, the district mathematics coordinator, thinks that parents should already have an awareness of what is expected of their student in the regular and advanced mathematics courses. If the district can value the funds of knowledge that Latino parents already possess, they may be able to use ’confianza’ and ‘respeto’ beliefs that Latino parents emphasize as a foundation for reflective inquiry and discussion surrounding enrollment in advanced courses with the parents.

Implications and Significance

A review of the literature on advanced course enrollment revealed that there has been an increase in the number and percentage of Latino/Latino students enrolling in advanced courses in mathematics; yet, there remains a large gap along racial and ethnic lines. The U.S. Department of Education Office for Civil Rights (OCR) noted several key findings regarding equity and access of the college readiness programs in high schools across the U.S. (USDE, 2014). In their report, USDE (2014) determined that the college and career readiness course offerings diminish in schools with the highest percentage of African American and Latino students. Looking at enrollment trends according to socioeconomic groups, NCES (2010) reported that students of color make up the majority of students that are considered to be of low socioeconomic status. Oakes’ (2005) study argued that enrollment patterns for honors courses were indeed largely determined by race and socioeconomic status.

The findings of this study suggest that strategic processes for creating a profile of

students considered good candidates for advanced mathematics at the school site are valuable, especially when considering the enrollment trends of various demographic groups. The district was able to minimize the opportunity gap, thereby increasing the access of Latino students in advanced mathematics. The closing of the opportunity gap is evident in the enrollment of Latinos in advanced mathematics at 34%, which nearly mirrors their Latino total student enrollment of 37% at this middle school. The district is intentionally creating a profile that includes both quantitative and qualitative data to capture as many students as possible during their fifth-grade year, thereby minimizing the gap.

In addition, district administrators, counselors, and teachers have knowledge of the profile and are responsible for communicating with parents about their recommendation. While the parent ultimately makes the decision for mathematics enrollment, the communication of the differences in the curriculum content is not consistent as told by the voices of the parents of this study. For example, the advanced mathematics parents of this study enrolled their child in the course based on either their familiarity or proximity to the enrollment process and courses. Advanced parents also had a mindset that their child did not have a choice to enroll in regular mathematics, because of their knowledge of the trajectory of course enrollment in earlier grades for later course enrollment. Parents of advanced students also based their decision on goals they have for their child to attend college. Parent knowledge of enrollment trajectories was a key finding in this study and in most cases was one of the factors considered in the decision to enroll in advanced mathematics.

Latino parents of regular mathematics students in this study were eager to support their child's academic progress, but two parents expressed that they did not know their child was a good candidate for advanced mathematics. The findings suggested that there was variation in the

communication from teachers to parents at the feeder campuses. This creates a lack of equity for students. As was the case with parents of advanced mathematics students, the knowledge of their child's aptitude coupled with the knowledge of the importance of this course for later course enrollment trajectories leading to college could lead more parents to enroll their child in the advanced mathematics course.

Another important finding was that traditional forms of parent involvement, such as helping with homework or engagement with the Parent Teacher Organization, was not present in the findings of this study. Parents in this study communicated with the school in order to gain access to the happenings of the school more than for obtaining progress updates unless their child was not turning in homework or received lower than expected grades. As such, Latino parents in this study, and in particular, those whose student enrolled in regular mathematics, had not fully been exposed to the possible implications of the choice they made regarding course enrollment. Parents would benefit from intentional communication, aimed at communicating the importance of course enrollment in advanced mathematics. For advanced parents, it was not a choice not to enroll in regular mathematics, because of their familiarity or proximity to advanced course enrollment. Having these intentional conversations with Latino parents, in Spanish if needed, could help to mitigate that as a reason that they did not enroll in advanced mathematics.

Recommendations for Further Research

Recommendations for further research would include a higher number of participants from various demographic groups. Overall, 85% of all students at the middle school site met standard on the mathematics state assessment surpassing the state passing rate at 76% (Texas Education Agency, 2016). Looking at Latinos specifically, 84% of Latino students at the

campus met standard on their 2016 state assessment. These percentages indicate that a high percentage of students at the middle school met the state's mathematics standards. In addition, 43% of students at the middle school site are economically disadvantaged. It is recommended that further research include lower performing campuses as well as higher percentages of economically disadvantaged students to compare the various perspectives regarding enrollment decisions for advanced mathematics in fifth grade. Looking at these varied demographics would help researchers explore how outcomes may or may not be different given varied demographics.

Further research should could also include more parents whose preference would be to conduct the interview in Spanish since the district and campus personnel felt language might be the reason why Latino students are not enrolling in advanced mathematics courses. It is also recommended that the interviews take place closer to the time during which the parent and student made the decision of enrollment into either course.

Additionally, it may be helpful to interview school personnel at the feeder campuses also, as they are the ones that that initially gave parents information about enrollment in sixth grade mathematics. In this study, the current counselor and teachers were interviewed. Since there is a gap in the research of elementary transition into mathematics enrollment, it may also be beneficial to do more studies in other schools and districts as this study is situated in one urban district and at one middle school site. Doing so may provide further insight into the phenomenon from the viewpoint of other parents that may be different in terms of level of education and socioeconomic status. In this way, these factors could be eliminated as factors that influence the level of familiarity or proximity to academic processes.

The findings of this study contribute to the larger body of research to indicate that enrollment decisions during the transition from elementary into middle school is an area that

needs more exploration. In addition, Latino parent perspectives are absent in the literature. This study helps to bring voice to this specific set of parents at this middle school. Because of this contribution, it is the hope that strategic plans for communication of course content and the importance of course enrollment for later trajectories are emphasized with Latino parents. The district may experience an increase in Latino enrollment when Latino parents emphasize advanced mathematics enrollment whether or not their child believes in their aptitude for advanced mathematics or states that they want to enroll in the course.

Recommendations for District/School Practice

It is plausible and possible for the district and campuses to develop a strategic communication plan of the differences in course content for parents. Districts can devise or replicate the systematic process for recommending enrollment and ultimately may be able to close some gaps within and among demographic groups. Since the systematic process may not be enough to communicate the importance of enrollment at earlier grades districts should continue to develop a better understanding of Latino parents and their relationship to their school.

The communication plan should include specific language referencing enrollment trajectories that are established early in sixth grade. This communication should be provided in Spanish in order to allow more access, and remove language as a barrier for parents. Additionally, the counselor should visit all feeder campuses as opposed to half of the total number of schools. It will be important for schools to have someone of a similar cultural and linguistic background interpret during these meetings. The interpreter must be able to carefully address nuances in the language before and during the interpretation, so that the intent and

meaning is not lost in the translation.

For Dayanara and Rocky, both regular mathematics students, late registration and rezoning was a causal factor for their non-enrollment in advanced mathematics. In order to avoid cases similar to these, the school and district should devise a strategic plan to recapture students early in the semester that missed key calendar deadlines for registration in advanced mathematics.

Additionally, the school should hold parent meetings aimed at providing a space for parents to gain academic references from other parents that have familiarity and proximity to the enrollment process for advanced mathematics. Since most advanced students in this study either had older siblings or their parent was familiar with enrollment processes, the district could eliminate familiarity and proximity as a barrier by facilitating discussions among parents that focus on enrollment trajectories. The discussions should include "mentor parents" as Borg suggested. Parent meetings could be the impetus that guides regular mathematics parents away from using their child as an academic reference. For example, when students communicate to their parent that they do not think they will do well in the counselor do not want to increase the amount homework they will be responsible for, parents will strongly consider the enrollment trajectories in their decisions.

Final Thoughts

As I conclude this study, I return to my initial driving force for choosing this topic, the middle school site, and its participants. My purpose was to understand why high-achieving Latino students were not enrolling in advanced mathematics in sixth grade. I could see the missed potential in the statistics nationwide; and yet, the chosen district was able to reduce the

gap district-wide. This was exciting to see. As I began to ask questions, I realized that other neighboring administrators shared in the excitement about the potential knowledge gained by this study. They too wanted to understand, and they encouraged me to continue asking more questions.

Interestingly, the parent participants that were the focus of this study were also deeply interested in this study. Those that knew about the importance of enrollment in advanced mathematics courses wanted to know more, and most of all felt re-affirmed in their decision to push their child beyond what they thought they could accomplish. Those that did not know about the importance of enrollment at this early stage in their schooling, also wanted to know more, so that they could make informed decisions in the coming years.

The conversations that ensued in the interviews reminded me so much of my own experience with my mother when I asked her to help me fill out scholarship and college applications. Though she was highly educated and graduated from a state university here in the United States, she was not familiar with the transitional system of enrolling in college after finishing high school. Her frame of reference was limited to her experience as a non-traditional student which did not include a college application based on SAT and ACT scores, like my experience was yielding.

As I reflect on this study, I hoped to provide some insight into the phenomenon of Latino student enrollment in advanced mathematics from the voices of the parents themselves. Their voice is often missing from the narrative; yet at this early age, they have a lot of influence over their child's educational choices. This study is aimed at informing the practice of districts and schools who should be more intentional toward narrowing the gap of Latino student enrollment in advanced mathematics classes. As a result of new understandings from this study, district

leaders and policymakers may be able to establish system reform and communication efforts that may encourage more high-achieving Latino students to enroll in advanced mathematics courses, especially at earlier grades.

APPENDIX A

MATHEMATICS TEACHER INTERVIEW PROTOCOL

Demographic information

Gender: Male_____ Female_____

Position: _____

Years as a teacher _____

Note: I will begin the interview by informing the interviewee about myself and the research study. An explanation will be provided regarding the tape recording of the interview and that their responses will be strictly confidential. They will also be informed that if there is something they would like to say off tape, I will oblige by stopping the tape midstream for their commentary.

1. Please describe your role at X school? (Background)

   Probes: In helping students, does your role extend to working with others in your school? What about with the counselor? With parents? Administration?

2. Describe your advisory role for the mathematics course? (research question 1)

3. On what basis do students choose to take your class? (research question 2)

   Probes: Are they selected? Encouraged? By whom? How does the school partner with parents to encourage students to choose X class?

4. How important is enrolling in this course (advanced/regular mathematics) to later enrollment in mathematics classes long-term? (research question 2)

5. Probe: What about 8th grade algebra as a predictor for college entrance? (research question 2)

6. How do you advise a student that wants to enroll in Algebra I, but you know they are not ready? (research questions 1, 2)

7. Do you think Latinos are underrepresented in advanced mathematics courses? (research question 2)

8. What are your thoughts on parental involvement and the enrollment process for the advanced mathematics course? (research question 1, 3, 4)

Probe: Have you noticed any difference in parental involvement along racial lines?

9. What behaviors or beliefs do you see Latino parents exhibit that would encourage or discourage their enrollment in advanced math courses? (research questions 3, 4)

   Probes: Trust? Respect?

10. Closing question: Is there anything you would like to add that may be relevant?

Research Questions

Cross-references of interview questions with the three research questions:

1. What is the role of parents, students, teacher, counselors, and school administrators in these enrollment decisions?

    Mathematics teacher interview questions: 1, 5, 7, 8

2. Why are high achieving Latino students enrolling or not enrolling in advanced placement classes?

    Mathematics teacher interview questions: 3, 4, 5, 6

3. How are these efforts reflected in Lareau's (2002) cultural capital activation theory?

    Mathematics teacher interview questions: 7, 8

4. How are these efforts reflected in Gonzalez, Moll, and Amanti's (2005) model of *funds of knowledge* theory?

    Mathematics teacher interview questions: 7, 8

APPENDIX B

COUNSELOR/ADMINISTRATOR INTERVIEW PROTOCOL

Demographic information

Gender: Male_____ Female_____

Position: _____

Years in current role _____

Note: I will begin the interview by informing the interviewee about myself and the research study. An explanation will be provided regarding the tape recording of the interview and that their responses will be strictly confidential. They will also be informed that if there is something they would like to say off tape, I will oblige by stopping the tape midstream for their commentary.

1. Please describe your role at X school (Background)

   Probes: In helping students, does your role extend to working with others in your school? What about with the counselor? With parents? With teachers?

2. How does your school select students for the advanced mathematics courses? (research question 2)

   Probes: Giftedness? State assessments? Grades? Formative assessments?

3. What is your role in course selection of students taking advanced mathematics courses in sixth grade? (research question 1)

4. What are the characteristics of a student that is driven to take advanced mathematics courses? (research question 1)

   Probes: Do students start the course and leave? How do you know if student should be pushed to take advanced mathematics courses?

5. Do you think Latinos are underrepresented in advanced mathematics courses? (research question 2)

6. What are your thoughts on parental involvement and the enrollment process for the advanced mathematics course? (research question 1, 3, 4)

   Probe: Have you noticed any difference in parental involvement along racial lines?

7. What behaviors or beliefs do you see Latino parents exhibit that would encourage or discourage their enrollment in advanced math courses? (research questions 3, 4)

   Probes: Trust? Respect?

8. Closing question: Is there anything you would like to add that may be relevant?

Research Questions

Cross-references of interview questions with the three research questions:

1. What is the role of parents, students, teacher, counselors, and school administrators in these enrollment decisions?

    Counselor/administrator interview questions: 3, 4, 6

2. Why are high achieving Latino students enrolling or not enrolling in advanced placement classes?

    Counselor/administrator interview questions: 1, 5

3. How are these efforts reflected in Lareau's (2002) cultural capital activation theory?

    Counselor/administrator interview questions: 6, 7

4. How are these efforts reflected in Gonzalez, Moll, and Amanti's (2005) model of *funds of knowledge* theory?

    Counselor/administrator interview questions: 4, 6, 7

APPENDIX C

STUDENT PARTICIPANT INTERVIEW PROTOCOL

Demographic Information

Gender: Male_____ Female_____ Year in School: _____

Name of current mathematics class:_____

Areas of academic focus: _____

Top choice for future college: _____

Likely college major: _____

Career goal: _____

Note: I will begin the interview by informing the interviewee about myself and the research study. I will tell them about my parents, where they are from and what hopes and dreams they had for me as a student. I will briefly speak about support systems in school or the lack thereof. I will conclude with an explanation regarding the tape recording of the interview and that their responses will be strictly confidential. They will also be informed that if there is something they would like to say off tape, I will oblige by stopping the tape midstream for their commentary.

2. You have been selected to participate in this study because of your consistently high academic performance in mathematics. How did you end up in X class? (background and research question 2)

    Probes: What do you like about your math class? What do you dislike? How much effort do you put into the class?

3. What motivates you to be successful in X class? State your goals for X class. (research question 1)

4. Describe your future plans? Do you plan to take (or continue to take advanced math classes? Please explain. (research question 1)

5. What do you think makes you successful in math? (research questions 1, 2, 3, 4)

6. Tell me about the people who may have encouraged you or have helped you be successful success? (research questions 1, 2, 3, 4)

    Probes: Math teacher? Parents? Counselor? Administrator?

7. What influence do they have in helping you decide whether or not to enroll in X class?

    Probe: (If student is enrolled in the advanced course) What influence do they have in encouraging you to stay in the advanced class? (research question 1)

8. Describe your parents' involvement: (research question 3)

a. Assisting you with homework;

b. Having discussions with you about school;

c. Contacting the school about your progress;

d. Participating in parent teacher organizations;

e. Participating in helping you prepare to take college entrance exams.

9. Describe rules your parents have for you about school. (research questions 3, 4)

10. Describe what your parents tell you about: (research question 4)

a. Their trust in school personnel

b. Respect for school personnel

11. What does it mean to them for you to be "educated?" (research question 4)

12. Closing question: Is there anything you would like to add that may be relevant?

Research Questions

Cross-references of interview questions with the three research questions:

1. What is the role of parents, students, teacher, counselors, and school administrators in these enrollment decisions?

Student interview questions: 1, 3, 4, 5, 6

2. Why are high achieving Latino students enrolling or not enrolling in advanced placement classes?

Student interview questions: 2, 4, 5

2. How are these efforts reflected in Lareau's (2002) cultural capital activation theory?

Student interview questions: 4, 5, 7

3. How are these efforts reflected in Gonzalez, Moll, and Amanti's (2005) model of *funds of knowledge* theory?

Student interview questions: 4, 5, 7, 8, 9, 10

APPENDIX D

PARENT INTERVIEW PROTOCOL (ENGLISH)

Note: I will begin the interview by informing the interviewee about myself and the research study. An explanation will be provided regarding the tape recording of the interview and that their responses will be strictly confidential. They will also be informed that if there is something they would like to say off tape, I will oblige by stopping the tape midstream for their commentary.

1. Your child has been selected to participate in this study because of their consistently high academic performance in mathematics. How would you describe your child as a student?

   Probe: How do you define success in school for your child? (Background)

2. What skills does he/she possess that allow him/her to be academically successful? (research question 1)

3. What aspects of his/her education do you consider the most challenging? (research question 2)

4. Tell me about the enrollment process for the mathematics course your child is in. (research question 2)

   Probe: Why did he/she enroll in that course?

5. What motivates your child to be successful in mathematics? (research questions 1, 2, 3, 4)

6. What role do you have in helping him/her decide whether or not to enroll in advanced mathematics courses? (research question 1)

   Probe: (If student is in advanced math course) What about to stay in the class?

7. Describe academic rules that your family has set for your child. (research question 3, 4)

8. Describe your parental involvement behaviors at school such as: (research question 3)

   a. Assisting your child with homework;

   b. Having discussions with him/her about school;

   c. Contacting the school about his/her progress;

   d. Participating in parent teacher organizations;

   e. Participating in helping your child prepare to take college entrance exams.

9. Describe your relationship with teachers at school. (research question 1)

   Probes: In their math class? Counselor? Administrator?

10. Describe your level of trust in them. (research question 4)

11. Describe your respect for them. (research question 4)

12. Tell me your thoughts about what it means for your child to be educated. (research question 4)

13. Closing question: Is there anything you would like to add that may be relevant?

Research Questions

Cross-references of interview questions with the three research questions:

1. What is the role of parents, students, teacher, counselors, and school administrators in these enrollment decisions?

Parent interview questions: 1, 5, 6, 9

2. Why are high achieving Latino students enrolling or not enrolling in advanced placement classes?

Parent interview questions: 4, 5

3. How are these efforts reflected in Lareau's (2002) cultural capital activation theory?

Parent interview questions: 5, 7, 8

4. How are these efforts reflected in Gonzalez, Moll, and Amanti's (2005) model of *funds of knowledge* theory?

Parent interview questions: 5, 7, 10, 11, 12

APPENDIX E

PARENT INTERVIEW PROTOCOL (SPANISH)

Nota: Voy a comenzar la entrevista, informando al entrevistado acerca de yo misma y mi

estudio. Se proporcionará una explicación con respecto a la grabación de la entrevista y que sus respuestas serán estrictamente confidenciales. Ellos también serán informados de que pueden hacer comentarios fuera de la grabación. Esto me obligará a detener la grabación durante esos comentarios.

1. Su hijo/a ha sido seleccionado para participar en este estudio debido a su consistentemente

rendimiento superior en matemáticas. ¿Cómo describe a su hijo/a como estudiante?

Sondeo: ¿Cómo define éxito en la escuela para su hijo/a?

2. ¿Cuál habilidad posee su hijo/a que le permite tener éxito académico?

3. ¿Cuáles son los aspectos de su educación que usted considera el mayor desafío?

4. Dígame sobre el proceso de inscripción del curso de matemáticas en el que su hijo/a se inscribió.

Sondeo: ¿Por qué se inscribió su hijo/a en esa clase?

5. ¿Qué es lo que motiva a su hijo/a obtener éxito en matemáticas?

6. ¿Cuál papel desempeña usted para ayudar a su hijo/a decidir si se inscribe o no en clases de matemáticas avanzadas?

7. Describa que tipo de respaldo que usted o su familia dan a su hijo/a en relación a la escuela.

8. Describa su participación como padre en:

a. Ayudar a su hijo/a con la tarea

b. Tener conversaciones con él/ella sobre la escuela

c. Estar en contacto con la escuela sobre sus progresos académicos.

d. Participar en organizaciones de padres/maestros

e. Participar en ayudarle a su hijo/a a prepararse para tomar los exámenes de ingreso a la universidad

9. Describa su relación con los profesores de la escuela.

Sondeo: ¿De la clase de matemáticas? ¿Consejera? ¿Administradora?

10. Describa su nivel de confianza en ellos.

11. Describa su nivel de respeto por ellos.

12. ¿Qué significa para usted “tener una buena educación en relación a su hijo/a?

13. Pregunta final: ¿Hay algo que le gustaría añadir que podría ser importante?

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