The Latino Male Educational Trajectory:

A Precollege Econometric Model and 21st Century Implications

By

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A dissertation submitted in partial fulfillment of

the requirements for the degree of

Doctor of Philosophy

(Educational Leadership and Policy Analysis)

at the

UNIVERSITY OF WISCONSIN – MADISON

2017

Date of final oral examination: 03/16/2017

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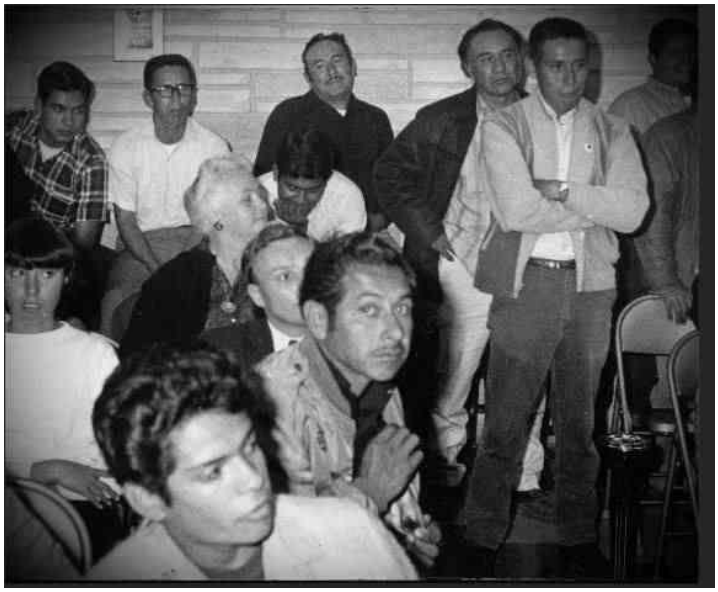

Esta tesis está dedicada a mi abuelo, Perfecto Villarreal. Él fue un soldado estoico que luchaba valientemente contra el fascismo en Europa, un sindicalista que abogaba por la justicia social y económica entre los trabajadores de campo. Y lo que es más importante, era un esposo y padre de diecisiete hijos quien era conocido por su familia y amigos como "Cheto", un hombre de profunda fe y convicción, que literalmente ayudaría incondicionalmente a una persona necesitada.

Acknowledgements

First, I would like to thank my father and mother, Ramon and Martha V. Ortiz who instilled in me the passion to work hard and value education. I would like to thank my beloved wife Dr. Mariana Pacheco Ortiz and my children Ramon III and Paloma who give me purpose in life. I thank my brothers, sisters and extended family that served as my cheerleaders over the years. I thank my close friend Dr. Camacho for his critical feedback. I especially owe a deep debt of gratitude to my advisor, Dr. Jerlando F.L. Jackson, who has patiently guided me through this long academic journey to the point of fruition. I would like to also thank my dissertation committee and their respective departments. Likewise, I thank my colleagues at the University of Wisconsin-Whitewater for their generous support during my research. Finally, I thank God without whom nothing is possible.

Abstract

The twin challenges of aging demographics in the United States and the need for higher levels of education to compete in the new technology-based economy is creating a socioeconomic paradox (Friedman, 2005). As the Baby Boomer generation retires, those replacing them are increasingly a non-White population. This demographic shift is inevitable and primarily driven by the burgeoning Latino population (U.S. Census, 2015). Although Latinos have made modest educational progress in the past decade, there are two different trajectories associated with gender (Saenz & Ponjuan, 2008). Latina females are making modest but consistent educational gains while Latino males are falling behind (Saenz & Ponjuan, 2008). Hence, access to postsecondary education for Latinos and males in particular, has become a pressing future economic issue. Latino males have one of the highest labor participation rates of all groups and by default become one of the most logical substitutes for retiring Baby Boomers (Fussell, 2009). In past studies, precollege initiatives have shown to be effective in mitigating structural barriers associated with postsecondary access, offering promise in the resolution of this impending educational and demographic crisis (Perna, 2000). Thus, this study analyzed the impact precollege programs have on the postsecondary access, retention and graduation of Latino males at a Midwestern University.

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Chapter I - The Converging of Demography and Economics

Rapid technological advances have transformed the industrial paradigm into a complex and fluid information-based economy nested within interlocking global markets (Benkler, 2006). Whereas the cornerstone of the previous production model was physical capital, the new paradigm favors the intangible aspects of capital (Junarsin, 2009). These intangible forms of capital include ideas, intellectual property and innovation: assets that can only be acquired through creative people (Junarsin, 2009). Thus, maintaining a pipeline of highly educated individuals is essential to United States (U.S.) national competitiveness (Ball, Dworkin, & Vryonides, 2010). Yet, the pool from which highly skilled human capital has historically been drawn, the White upper middle class, is aging and is shrinking relative to the overall labor force. The new pool of potential human capital is less affluent and increasingly Latino (Maldonado & Farmer, 2007). This is the same demographic that has historically struggled in the traditional avenues of human capital development, such as public schools and universities (Huber, Malagon, Ramirez, Gonzalez, Jiménez & Velez, 2015). Hence, we are caught in a socio-political paradox: the most important population pool for future human capital development is simultaneously the most marginalized.

According to projections from the U.S. Census for 2014- 2060, more than half of the nation's population will be comprised of non-Whites by the end of this time frame. A closer examination reveals unique population trends. Non-Hispanic Whites are expected to decline from 62.2% of the population to 43.6%, African Americans are expected to go from around 13% of the population to 14%, and Asian Americans will grow from 5.4% to 9.3%; while Latinos: however, will grow from 17% of the population to 29% (Colby & Ortman, 2015). In essence, this radically changing national demographic profile is primarily driven by an irreversible Latino

population boom. Therefore, it is imperative to critically examine the impact of this demographic boom in relation to existing K-16 educational structures, assess current outcomes and explore mechanisms for academic success.

Latinos and the U.S. Education Pipeline

Throughout the world racially distinct language minorities find themselves marginalized in first world educational systems. This has occurred for African and Arab immigrants in Western Europe and Caribbean Immigrants in Canada (Archer, 2003; Sacket 2014; Frank, Kehler, Lovell & Davison, 2003). A parallel state of affairs exists in the United States for Latinos. The national state of the Latino educational pipeline is best illustrated by the following figure.

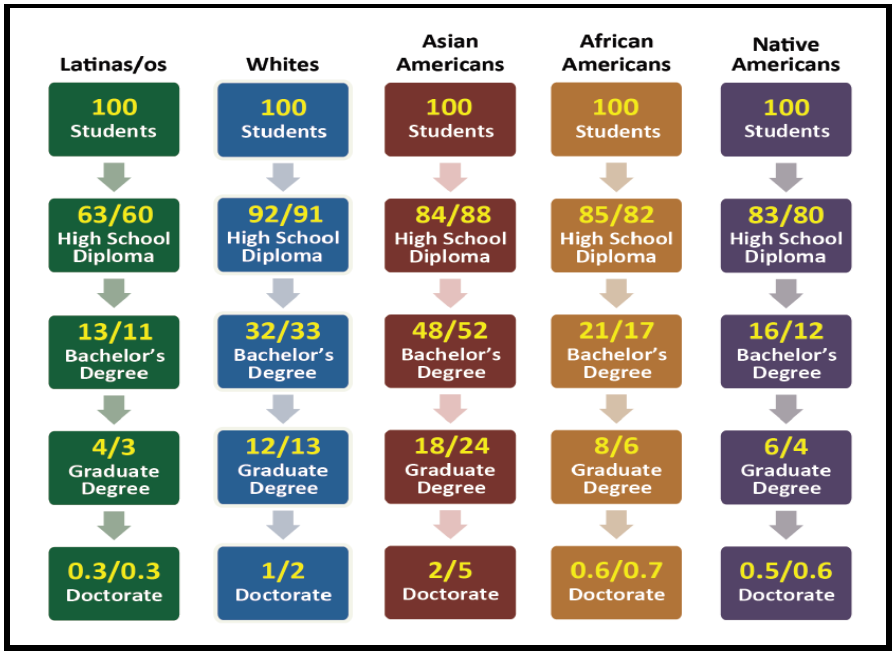

Figure 1: U.S. Education Pipeline (2012), by race/ethnicity and gender (female/male: U.S. Census Bureau, 2015).

According to these data, for every 100 male Latino students who enter elementary school, 60 will graduate from high school, 11 will obtain a bachelor's degree, 3 will receive a

graduate degree and 0.3% will obtain a doctorate degree (Huber, Huidor, Malagon, Sanchez, & Solorzano, 2006**)**. This trend clearly demonstrates that Latino students are not only severely underrepresented in higher education, but that the educational system as a whole is falling short in meeting the educational needs of this population. This is creating an impending national educational crisis. While a plethora of media attention exist on Latino high school dropouts/pushouts and the negative social implications (Executive Office of the President of the United States, 2015), very little in-depth attention is given to the unique barriers that Latinos experience on the pathway to baccalaureate achievement.

There are many dimensions to the Latino K-12 educational experience and they encompass economic, structural, social, cultural and psychological factors (Rumberger & Larson, 1998). The most pronounced barriers by far involve variations of the disadvantages associated with low socio-economic status (Swail, Cabrera, Lee, & Williams, 2005). While these factors weigh heavily on the probability of academic success for Latino students, and many of the same socio-economic challenges are common across all ethnic groups, researchers have recognized that these challenges are a unique amalgamation of language barriers and socio-cultural processes (Rumberger & Larson, 1998). It has been found that "institutional support systems in relation to cultural processes have a significant impact on the achievement of poor Latino students" (Conchas, 2001, p. 500). Students' success in this study was a result of structure, culture, and agency. Those students who had the weakest institutional support and were immersed in a school culture of low academic expectations, consistently performed lower on tests of academic achievement. Academic motivation, however, was another predictor of Latino academic success, and the presence of minority teachers was a key factor. Students of

color in general expressed high levels of pro-school attitudes with teachers of color, whose presence perhaps validates the possibility of academic success (Goldsmith, 2004).

Although still lagging significantly behind their White counterparts in academic performance, college access, retention and graduation, Latinos have made some gains in recent decades. According to 2000 Census data, Latinos were the least educated of all ethnic minorities with a dismal high school graduation rate of 54% (Huber, Huidor, Malagon, Sanchez & Solorzano, 2006). However, recent data shows a reduction in the Latino high school dropout rate to all-time lows. In addition, Latinos have closed the equity gap for most Advanced Placement (AP) exams with the exception of the sciences (Calderon, 2015). Furthermore, Latinos are now the largest ethnic minority represented on college campuses across the nation (Fry & Lopez, 2012).

While these trends seem promising, the number of Latinos receiving college degrees still lags behind other groups. In 2011, 1.2 million bachelor's degrees were awarded to non-Hispanic Whites and 165,000 were awarded to non-Hispanic Blacks compared to 140,000 awarded to Latinos (Fry & Lopez, 2012). Moreover, disaggregated data on Latinos when controlling for gender demonstrates two trends: bad, and worse. For 16-24-year-old Latinos in the year 2005, the proportion of high school dropouts for Latino males versus females was 26.4% compared to 18.1% (Saenz & Ponjuan, 2008). In addition, this gender education gap becomes more prevalent the further one moves through the educational pipeline. Data from the period of 1975 through 2006 show the proportion of Latino males to females entering 4-year institutions declining from 57.4% to 39% (Saenz & Ponjuan, 2008). Thus, this study examined questions of how precollege initiatives at a mid-western comprehensive university, impacted the postsecondary access, retention, and graduation of Latino males.

Significance of the Study

Latinos are currently the nation's largest racial/ethnic minority group, comprising a population of approximately 53 million. According to projections by the U.S. Census Bureau, this population is expected to nearly triple by 2050 to an estimated 132.8 million people. This means we can expect that one of out of every three Americans will be of Spanish-speaking descent by 2050. Such a large population shift, combined with the fact that this is a relatively young population (49% under the age of 17), makes Latinos one of the most important segments of our future labor force (Calderon, 2015). Similarly, it is estimated that by 2020 approximately 65% of all jobs will require some sort of postsecondary degree (Calderon, 2015). However, in a global economy that is requiring higher levels of education and training, Latinos are at a distinct disadvantage in the U.S. labor market. They are still one of the most poorly educated of all groups and still lag significantly behind their White counterparts (Huber, Malagon, Ramirez,et al 2015). Over the last decade, Latino adults with associate degrees or higher, increased to 22%. During that same time, the percentage of White non-Hispanic adults with associates degree or higher increased to 46% (Santiago & Galdeano, 2015).

Thomas Friedman describes our nation's current demographic shift as a quiet crisis where many forces are converging to bring about the "perfect storm involving a collision of an older generation of American engineers and scientists who are retiring at the same time that a younger generation is not stepping into their shoes in sufficient numbers" (Friedman, 2005, p.328). This trend is seen throughout the U.S. education pipeline that is becoming increasingly more marginalized, non-White, and Latino. The U.S. Department of Education indicates that by 2023 Latinos will account for more than 30% of K-12 enrollment nationwide (Calderon, 2015). Despite evidence that delineates a clear relationship between investment in education and

positive social outcomes across all ethnic subgroups (Levin, 2009), our educational system is still not developing enough students with the necessary skill sets. Thus, it is part of a general socio-economic milieu that limits the development of human capital. Current economic data suggests that the nation faces serious challenges in meeting the basic skill attainment levels needed to grow its workforce (Mauldin, Mayo & Breen, 2015).

Statement of the Problem

Our society's shortfall regarding educational attainment comes at a time when education is now a major factor in the world economy as the basis for global competitiveness. This is particularly true in the race to develop high skill labor (Ball, Dworkin, & Vryonides, 2010). We are now seeing that postsecondary education is increasingly a requirement for gainful employment (Copple, 2008). With Latinos currently comprising one fourth of the K-12 population, their educational success is now directly and unequivocally linked to the national future labor productivity (Fry & Lopez, 2012). Latinos are now the largest ethnic minority group represented on college campuses (Fry & Lopez, 2012). Yet, this trend can be misleading if one does not critically examine how race and gender interfaces with this trajectory.

The link between demography, the workforce, economy, race and gender is becoming a vital issue requiring immediate attention (Shoven, 2010). Whereas in earlier U.S. history there were nine workers to every one retiree, we are now projected to have two workers to every one retiree in twenty-five years (Shoven, 2010). Thus, it is paramount to maximize the output of all of those in their prime working years. There has recently been increased political attention placed on the opportunity gaps that face young men of color in the United States. It is estimated that if the educational disparities for men of color ages 25-64 were alleviated, they would earn as much as $170 billion more annually (Executive Office of the President of the United States,

2015). An increase in earning power would have tremendous reverberations in local communities of color and in particular the Latino community that is expected to comprise 18% of the nation's labor force by 2018 (Calderon, 2015).

Currently, over 30% of Latino children live below the poverty line (Executive Office of the President of the United States, 2015). Not only do issues of poverty have a profound effect on the economic stability of families, but they also have a direct impact on levels of crime in local communities (Heckman & Masterov, 2007). Crime levels in turn dictate how and where public resources are invested. For instance, the annual cost of incarcerating one juvenile is estimated at approximately $100,000 (Executive Office of the President of the United States, 2015), a cost more expensive than the tuition at any of the elite Ivy League schools. Therefore, one must unpack the synergistic interaction that occurs between education, workplace productivity, family stability, and overall societal health (Heckman & Masterov, 2007).

The pivotal factor for increasing worker productivity lies in education (Spring, 2008). Skilled workers are more productive on the job, are better able to communicate with co-workers, and are better able to learn new skills and apply them appropriately in changing environments. Thus, higher levels of students' academic achievement is directly associated with higher levels of economic productivity (Harris, Handel & Mishel, 2004). This relationship between education and workforce training is especially critical for Latinos who are historically seen as a rapid response labor pool to address the imminent needs of industry. One example of this is how the federal government suspended the enforcement of immigration laws for 45 days after Hurricane Katrina to support the construction industry's rebuilding efforts (Fussell, 2009). Yet, before we can fully leverage the economic potential of this ethnic subgroup, one must first wrestle with some stark realities. Latinos have a very high labor participation rate but are overly concentrated

in low wage sectors like agricultural, meat, poultry and construction (Fussell, 2009). They are also less likely than White or African American workers to have a college degree (Calderon, 2015). This brings us to an interesting crossroads where microeconomic data show a direct positive relationship between education and wages (Harris, Handel, & Mishel, 2004). Furthermore, it is evident that there is a greater return on investment for education in more developed nations (Nelson & Phelps, 1966). Yet despite being the most obvious labor force replacement for departing Baby Boomers, the nation does not seem cognizant of this impending reality (Hersh, Merrow, & Wolfe, 2006).

Although inaction may limit human capital development, the demographic shift will continue to march through our educational institutions. According to Haro (2004, p.2006) "a relentless swelling tide of Latino students is approaching higher education." The author also suggests that certain practices increase the likelihood of educational success at the postsecondary level. These practices include: access to technology, enrollment in college preparatory courses and greater outreach to family members during the college selections process (Haro, 2004).

Latinos have made modest gains over the past decade; however, most of this has been a byproduct of female educational strides (Saenz & Ponjuan, 2008). The Latino male population has demonstrated an alarming rate of educational attrition during this same timeframe. According to data from the recent U.S. Census (2015), Latino males are the least likely of all ethnicities and genders to complete high school. This dismal performance by Latino males is the most significant factor in the Latino/White achievement gap. A number of precollege initiatives have shown promise in remediating the low educational trajectories of other marginalized groups. With almost half of the Latino population being under the age of 17 and the slow pace of K-12 reforms, precollege initiatives provide a viable solution (Calderon, 2015;Mendola, Watt &

Huerta, 2010;Slavin, 2002). In essence, the programmatic features associated with precollege programs have shown to be positively correlated with postsecondary success (Mendola, Watt & Huerta, 2010).

Definitions

In order to maintain clarity in the discourse and subsequent narrative, key terms are defined as follows:

"American Indian or Alaska Native" is a person having origins in any of the original peoples of North and South America, (including Central America), and who maintains tribal affiliation or community recognition (Food and Nutrition Service, 2005).

"Asian" is a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent, including, for example, Cambodia, China, India, Japan, Korea, Malaysia, Pakistan, the Philippine Islands, Thailand, and Vietnam (Civil Rights Compliance, 2005).

"Black or African American" is a person having origins in any of the black racial groups of Africa. Terms such as "Haitian" or "Negro" can be used in addition to "Black" or "African American" (Civil Rights Compliance, 2005).

"Cabellerismo" denotes the chivalry normally associated with a gentleman, and generally has a positive connotation. It is the good side of masculinity, denoting strength, stoicism and self-sacrifice on behalf of those in your charge (Mirande,1997).

"Chi Square" is the test for *Ho:* independence that summarizes how close expected frequencies, fall into observed frequencies (Agresti & Finaly, 2009).

"College Enrollment" is attending a post-secondary institution at the undergraduate level (Higher Education Act of 1965, as amended in 2011).

"College Retention" is a measure of the rate at which students persist in their education program, usually expressed as a percentage (Higher Education Act of 1965, as amended in 2011)

"College Graduation" is the completion and conferring of a post-secondary four-year degree, program or award. (Higher Education Act of 1965, as amended in 2011)

"Cultural Capital" is an understanding of the dominant culture's rules, institutionalized in the form of educational qualifications, which can be converted into economic capital (Bourdieu, 1986).

"Delta P" is the probability change for every one percent change in the independent variable deemed significant (Jackson, 2008)

"Doxa" means the implicit rules that govern certain social spaces or fields (Bourdieu, 1972).

"Economic Capital" is the stored labor immediately converted into money, institutionalized in the form of property rights (Bourdieu, 1986).

"Familismo" is a collective cultural ideology that prioritizes loyalty to the family unit above and before all other social institutions (Mirande, 1997).

"Fields of Power" are the social spaces that facilitate the interaction between rules, agent, habitus and forms of capital (Bourdieu, 1986).

"Habitus" is the internalized system of dispositions, complexities, dexterities and biases that are present in the person (Bourdieu, 1972).

"Native Hawaiian or Other Pacific Islander" is a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands (Civil Rights Compliance, 2005).

"Latino or Hispanic" is a person of Cuban, Mexican, Puerto Rican, South or Central American, or other Spanish culture or origin, regardless of race. The term "Spanish origin" can be used in addition to "Hispanic or Latino" (Civil Rights Compliance, 2005).

"White" persons are those having origins in any of the original peoples of Europe, the Middle East or North Africa (Civil Rights Compliance, 2005).

"Low-income" is an individual whose family taxable income did not exceed 150% of the poverty level amount in the calendar year preceding the year in which the individual initially participates in the precollege project. The poverty level amount is determined by using criteria of poverty established by the Bureau of the Census of the U.S. Department of Commerce. (US Department of Health and Human Services, 2016)

"Potential first-generation college student" means—(1) An individual neither of whose natural or adoptive parents received a baccalaureate degree or (2) A student who, prior to the age of 18, regularly resided with and received support from only one natural or adoptive parent and whose supporting parent did not receive a baccalaureate degree. (Higher Education Act of 1965, as amended in 2011)

"Limited English proficiency" means an individual whose native language is other than English and who has sufficient difficulty speaking, reading, writing, or understanding the English language denies that individual the opportunity to learn successfully in classrooms in which English is the language of instruction (Higher Education Act of 1965, as amended in 2011).

"Machismo" denotes the negative side of masculinity and is generally associated with brute power and dominance, especially over the feminine (Mirande, 1997).

"Academic tutoring" is assistance to enable students to complete secondary or postsecondary courses, which may include instruction in reading, writing, study skills, mathematics, science, and other subjects (Higher Education Act of 1965, as amended in 2011).

"Nagelkerke R" square is the portion of variation that can be explained by the predictors (Peng, Lee & Ingorsoll, 2002).

"Odds Ratio" is equal to the natural logarithm raised to the exponent of the slope (Agresti & Finlay, 2009).

"Precollege Participant" is a k-12 student that has participated in any of the federally funded TRIO programs; state sponsored or privately funded summer residential academic camps at the Midwestern University (Office of Institutional Research, 2015).

"P-Value" is the probability that the test statistic equals the observed value, or in a more extreme direction of the Ha: (Agresti & Finlay, 2009).

"Statistical Significance" provides strong evidence against the *Ho*: it means that if true, it would be highly unusual (Argesti & Finlay, 2009).

"Social Capital" is made up of the social obligations and connections, which are convertible, under certain conditions, to economic capital (Bourdieu, 1986).

"Social Reproduction" is the unifying principle of conduct, opinions, habitus and culture that through the educational system reproduces the systems of objective conditions (Bordieu & Passeron, 1994).

Chapter Summary

The primary drivers of our global economy are no longer merely physical capital but also human capital (Junarsin, 2009). Despite this trend our society still maintains two distinct educational trajectories, one for the affluent and one for the marginalized non-White (Huber,

Huidor, Malagon, Sanchez, & Solorozano, 2006). With Latinos projected to be a third of the population by 2050, their educational success is now directly linked to our nation's prosperity; as it is the only demographic groups growing fast enough to replace the retiring Baby Boomers (U.S. Census, 2015). This becomes a critical issue, as Latinos are still the least educated of all minorities (U.S. Census, 2015). This educational disparity finds its origins at the beginning of the educational pipeline and continues through postsecondary structures (Swail, Cabrera, Lee & Williams, 2005). The country finds itself in the midst of an impending shortfall of a high quality labor force if it does not make a concerted effort to resolve this issue.

Chapter II – Review of the Literature

The impact of demographics is directly linked to national economic prosperity. It is estimated that, "the seventy five year actuarial balance of the social security system would be higher by 2.6 trillion if the national fertility rate were 2.3 per woman versus the current 1.7" (Preston & Harnett, 2010, p.11). The negative social implications of less than replacement level fertility rates are evident in Europe as nations face massive public pension shortfalls. In the U.S., the rapid influx of immigration along with the high fertility rates of immigrant families has helped the nation retain replacement levels (Preston & Harnett, 2010). Yet, the extent to which our society can capitalize on this demographic wave will be determined largely by our approach to human capital development.

Human Capital, Society, and the Economy

While renowned for his advocacy of free market capitalism, Adam Smith was also an adamant believer in human capital as a valuable national asset (Smith, 1776). This profound insight is perhaps more relevant now than in the 18th century as we experience radical social and economic transformations as a result of deindustrialization. Knowledge is now a key economic resource and a source of competitive advantage (Friedman, 2005). This new socio-economic reality is a byproduct of globalization, and our public educational system has yet to align itself with this reality. Historically, compulsory education has provided the required level of literacy particular to the roles of each ethnic caste amid the social hierarchy (Friedman, 2005). This approach fits well into the economic framework of 1950s when 60% of jobs were classified as unskilled (Achieve Inc., 2015). However, times have changed and we are now in an era where economies are a collection of markets, whose framework is in a constant state of flux and the currency of exchange is the innovations of the newly emerging creative class (Junarsin, 2009).

A history of human capital development in the U.S. demonstrates that prior to the 20th century, the focus in higher education was on training the elite for social and political leadership (Beach, 2009). Educational training has since been democratized and transformed into training all Americans for work. International data reaffirms an existing trend whereby our nation is falling behind its global peers in educational achievement (Bailey, 2008). This phenomenon combined with the aging demographics of our country and ever-increasing need for higher levels of education to maintain our competitive advantage in the global economic landscape, poses a plethora of social and economic challenges that we will be forced to collectively confront in the future.

Although some economists use human capital theory to explore the cause and effect relationship between education and economic development, one difficulty is that it reduces a complex human experience to a productivity equation calculated as an individual return on investment (Beach, 2009). This perspective completely omits the social return, which is the residual benefit to society as a result of an educated citizenry (Psacharopoulos & Patrinos, 2004). The notion of using the market as an effective means of distributing resources is based on some very straightforward assumptions: people are rational and motivated by self-interest when the benefits are clearly defined. This is the classical economic framework for predicting human behavior (Tan, 2014). Under this model, a significant social surplus is derived by "the net benefit consumers and producers receive by participation in the markets..." (Weimer & Vining, 2011, p. 57). This surplus is traded in a manner in which both the buyer and the seller are better off as a result of the transaction.

However, education as a public good is difficult to categorize because, as an investment, it generates both public and private value simultaneously (Weimer & Vining, 2011). This is one

reason that public education is allowed to establish a natural monopoly. The overarching goal is educating the populace to promote a positive and healthy democracy (Friedman, 1955). This goal is considered a success regardless of whether the system as a whole generates an economic surplus or must be subsidized (Friedman, 1955). Yet public support of education is not without its shortfalls, especially in regards to equitable access to school knowledge (Anyon, 1981). These are occasions where disparities are so disproportionate that they lead to and perpetuate social inequity, giving rise to a system founded on a false sense of merit (Anyon, 1981).

Understanding inequality is central to the proper development of human capital (Benkler, 2006). Within the educational system, some groups are better positioned to navigate and leverage the tax funded infrastructure in manner that maximizes privilege for their children while generating an education debt owed to others (Ladson-Billings, 2006). This is a direct reflection of inequitable social capital where, "those with more fare better in schools then their peers with less" (Harper, 2008, p. 1033). Whether or not the U.S. can successfully transcend these structural challenges is a dilemma that will ultimately be resolved by critical examination of the current approach to human capital formation (Benkler, 2006). This issue is especially salient in regard to Latinos whose demographic profile is now becoming increasingly important to our nation as an economic pillar (Catanzarite & Trimble, 2007).

Latino Educational Outcomes in the 21st Century Educational Paradigm

The educational process is an organic and multi-dimensional intellectual undertaking that cannot easily be quantified in a scientific formula (Bean, 2006). This is evidenced by the fact that inconsistent relationships exist between direct expenditures per student and actual student academic achievement (Vandenberahe, 1999). Neither can one expect our education system to serve one narrowly defined social purpose. This expectation would be devoid of the realities of

global pressures that influence the evolution of education as a discipline (Spring, 2008). Although the notion of redefining the educational system to correlate with the needs of the new economic framework is not a new concept, what has changed are the constraints and escalating demands (McGuiness & Sloane, 2011). Technological innovations, the democratization of access to higher education and the disruption of impediments to knowledge production have created new approaches to learning that are not beholden to the traditional ideological or bureaucratic constraints (Ball, Dworkin & Vryonides, 2010).

While on the one hand this acceleration of knowledge production and accumulation is forging new paths for best practices and applied research, the public school system, like most public institutions, is slow to change (Spring, 2008). The current educational system will eventually have to adjust to the realities of our economic systems. Yet, in the interim, we must keep matriculating marginalized students (especially Latinos) through the existing pipeline in the most effective manner, or resign to an exponential growth of negative externalities (Calderon, 2015; Catanzarite & Trimble, 2007; Moss, 2008).

Although socio-economic status (SES) is one factor that has a profound influence on educational achievement, it did not always directly correlate to academic performance of Latino students (Rumberger & Larson, 1998). One study at a large Los Angeles public school found a conflicting trend whereby limited English proficient students who did not become English proficient fared worse academically while full English proficient students tended to perform better. Within this latter group, however, there was a caveat. Students who progressed from limited English proficiency to full English proficiency in general outperformed those students who were full English proficient from the onset of their academic careers (Rumberger & Larson, 1998). This trend was consistent despite the fact many of the English proficient Latino students

were of higher socio-economic status. Further inquiry revealed that this outperformance was a result of student persistence, versus, outperformance in the traditional academic benchmarks like test scores and grade point average (GPA) (Rumberger & Larson, 1998).

Similarly, Maldonado and Farmer (2007) attempted to decipher predictable patterns of college going and degree completion rates for Latinos. This study controlled for ethnic subgroups and for the number of generations the student's family had been in the country. The data was from a robust longitudinal study in which 25,000 students and their families were surveyed and then given follow-up surveys over a series of years to identify the probability of degree completion for each subgroup. The study concluded a trend where there was a lack of degree completion for Latinos, especially in the technical fields, which translate into high skilled, high wage occupations. Thus, factors other than economic drivers are pertinent to understanding Latino educational outcomes.

Factors Affecting College Access and Retention

Latino students disproportionately enroll in institutions that traditionally have low degree completion rates (Kurlaender, 2006). While one can argue that the pattern of low degree attainment is merely the result of less than stellar academic preparation, even among the most college-ready Latino students, 60% attend non-selective universities or community colleges (Fry, 2004). While college selectivity is usually overlooked, it is an extremely significant variable because of its tendency to translate into degree completion. Longitudinal data from the U.S. Department of Education demonstrate that highly selective institutions have higher rates of bachelor's degree completion than less selective institutions for Latino youth (Fry, 2004). Given that Latinos are more likely than any other group to enroll in community colleges, the issue of

college selectivity becomes more pertinent with regard to postsecondary access, retention and graduation (Fry, 2004).

Less tangible resources like social capital (e.g., personal, familial and institutional) also affect the prospects of student academic achievement. Although parental involvement is generally a predictor of favorable educational outcomes, the parent's social and cultural capital also has a profound impact on the academic matriculation of students (Teachman, Paasch & Carver, 1997). According to a study by Portes (1998), through social capital, individuals can gain access to valuable resources where they then can increase their cultural capital through contact with experts. However, this phenomena, can also work in reverse, facilitating negative social capital. This phenomenon has a direct impact on the quality of parental guidance during the college selection and enrollment process. Parents from lower SES backgrounds are more likely to provide abstract advice (e.g., study hard, go to college and get a degree) and rely more on school support systems to help their children navigate the process. In contrast, parents of higher SES backgrounds are more likely to provide advice to their children relative to college selection and application while advocating for their child's admission into college preparatory courses (Rowan-Kenyon, Bell, & Perna, 2008).

Thus, the type of social capital acquired through institutional means is equally paramount. One study used quantitative data from the National Educational Longitudinal Survey to test a hypothesis regarding Mexican-Americans and their access to institutional social capital. The premise was that they learned less in school because they have less access to social capital (e.g. access to teachers and principals) and because they are not able to fully access these networks when they are available to them (Ream, 2003). The same study found that while Mexican-Americans were more transient than Whites, they had access to more social capital (as

defined by student/teacher interaction) than their White counterparts. Yet, it was the quality of the social capital obtained that dramatically affected the academic success of Latino students. Latino students are more likely than Whites to receive classroom nurturing to maintain classroom harmony, whereas Whites were more likely to be nurtured for pedagogical reasons (Ream, 2003). In addition, teachers in more affluent neighborhoods had access to a higher quality of social capital and were more likely to have access to resources that their counterparts in impoverished schools did not. This is a pertinent finding, especially since Latinos are currently the most segregated minority in the nation (Orfield, Frankenberg & Kuscera, 2014).

The Educational Pipeline and Latino Male Attrition

Kurlaender (2006) begins with the premise that Latino students have a greater propensity to attend two-year colleges than other groups. This phenomenon was first examined within the context of other theories historically used to explain postsecondary achievement. The most prevalent of these theories includes human capital theory and rational choice models, which reduce the entire process of educational matriculation and postsecondary success to a series of opportunities and competitions that match interest with abilities.

According to the strict interpretation of these models, race is only a relevant factor to the extent that it correlates with socio-economic status and motivation. The author explored four potential explanations for the different rates of college entry relative to race. The variables identified as possible predictors included: socio-economic status, degree intention, prior academic achievement and preparation, and differences among postsecondary structure (Kurlaender, 2006). The data used for this study was obtained from the National Education Longitudinal Study of 1988, a study that tracked over 25,000 eighth graders.

Kurlaender (2006) findings in his study concurred with the general trends found by other researchers. For example, similar predictors emerged in another study, research by Fry (2004) which found consistencies in the profiles of Latino students and the risk factors identified by the U.S. Department of Education. These factors likewise encompassed delayed postsecondary enrollment, part-time enrollment, not having a regular high school diploma, working full-time, being financially independent, having children or dependents, and being a single parent (Fry, 2004). Yet the rate of technical education degree attainment was highest for first-generation Latino immigrants and then diminished with each successive generation. The researchers were unable to identify the cause of this counterintuitive trend, since one would expect immigrants to face greater challenges than the native born Latinos (Maldonado & Farmer, 2007).

Fry (2004) also argued that the likelihood of Latinos attending community colleges versus four-year institutions was largely tied to their family's SES, the cost of tuition, and the flexibility to schedule classes around work and family commitments. This factors that weighed heavily in students' college selection process. These finding reflects survey results conducted by the Pew Hispanic Center, which found that 77% of Latino students surveyed stated that the cost of tuition and the need to work were the greatest obstacles to attaining higher education. Analyzing the variable of prior academic achievement also gave mixed results. For example, Latino students generally scored better than African-American peers on standardized tests, yet attended community colleges at higher rates (Fry, 2004). In addition, when controlling for the variable of academic achievement specifically for Latino students, this academic achievement did not appear to influence the type of institution chosen. Institutional selectivity, however, did significantly influence the likelihood of degree completion. Those who began their academic

careers in a more selective institution obtained bachelor's degrees in greater numbers (Melguizo, 2008).

A common theme begins to emerge across studies showing that the majority of Latinos entering postsecondary education did so with the objective of obtaining a four-year degree, but fell short of this goal. Again, a variety of factors are associated with the propensity to choose community colleges which diminished the probability of success for Latinos in postsecondary education. Factors such as delayed enrollment, greater financial responsibility for family members, and tendency to live at home, all translate into less campus contact. This is especially salient to the experience of Latino males for whom contributing towards the family unit is a practice heavily based in the cultural tradition of "familismo" (Saenz & Punjuan, 2008). However, even these factors do not account for the entire deviation from White students.

Another study noted that two out of three Latino youth pursue postsecondary education by age 26, a rate very similar to white students (Swail, Cabrera, & Lee, 2004). In addition, findings on Latino school engagement noted that Latino students' academic success is also associated with the relationships they forge with other high achieving peers outside of their own race and ethnic group. Thus, "Latino students who forged relationships with non-Latino students build stronger high achieving peer networks" (Conchas, 2001, p.484). This, in essence, reaffirms the positive benefits of acquiring higher quality social capital. Despite these, sometimes contrasting theories, none of the research reviewed thus far has refuted the notions that Latinos have lower high school graduation rates, an inclination towards community colleges and lower rates of degree completion.

The data also shows modest gains for Latina females and dismal rates of college enrollment for Latino males. This trend also appears to be widening according to data from the

National Center of Educational Statistics (2005). Just as in studies with other marginalized groups, a probe into understanding this trend must be an approach that is cognizant of the complex interaction of social, political and cultural phenomena that comprise the Latino experience. Similarly, any corrective measure must likewise serve as an antidote to the multifaceted issues.

The achievement gap between males and females is not only constant across all ethnic groups, but finds its origins at the beginning of the educational pipeline. Males are, on average, a year to a year and one half behind females in reading and comprehension and are twice as likely to be held back (Shaffer & Gordon, 2006). This achievement gap; is exacerbated by issues of poverty, social and cultural pressures for Latino males. In addition, the political discourse and educational policies at the institutional level provide a concrete effort of scrutiny, outreach and nurturing for female students as a result of Title IX mandates (Saenz & Punjuan, 2008). While this is understandably done to mitigate against male hegemony in the overarching societal superstructure, a parallel political reality does not always exist within communities of color. Many social contexts are more amiable to young women of color because they are perceived as less threatening than men of color. An example of how this social cue is codified and institutionalized is the public school system's labeling and tracking of "at risk" youth (Mutua, 2001). Once a student is branded with this label, they are automatically tracked into a less demanding curriculum whose priority is social control rather than academic rigor (Pollack, 1999).

When referring to the cultural attitudes that can hinder academic success, most of the focus is on the idea that a rejection of academic culture is a means of resisting assimilation (Fordham & Ogbu, 1986). While this is a very real social-cultural phenomenon that is prevalent

in many communities of color, Latino males have an added layer that exacerbates this phenomenon. The notion of familismo is a very real cultural tradition that remains consistent across Latino ethnic subgroups and generational assimilation (Marin & Marin, 1991). Within this cultural framework, there are very clear expectations of loyalty and reciprocity. Yet, these expectations are qualitatively different for young males and females. Women are expected to be available to help nurture and care for younger siblings and older relatives. For Latino males, this reciprocal obligation is based on the expectation that they will protect and help provide for the family unit (Saenz & Punjuan, 2008).

Although no culture is static and changes have occurred to the value system of immigrants, these traditions still remain a salient feature of the Latino cultural landscape. These cultural traits also translate into one of the highest labor force participation rates in the country (Catanzarite & Trimble, 2007). While a strong work ethic is an admirable quality, it is not conducive to academic progress if not focused on academic endeavors. According to data from the Bureau of Labor Statistics "almost half (45.5%) of Latino men ages 16 thru 24 were employed full-time compared to 26% of their female counterparts" (Saenz & Punjuan, 2008, p. 21). Moreover, despite these high rates of labor force participation, Latino men are overrepresented in lower skilled occupations that have fewer prospects for upward mobility. Other factors like undocumented status and a higher probability of incarceration (1 in 6 Latino males will go to prison in their lifetime) further detract from matriculation through the pipeline (Saenz & Punjuan, 2008).

Chapter Summary

The preceding literature review elucidates an impending reality. Declining educational achievement will have implications of historical magnitude for the U.S. and its sphere of global

influence (Bailey, 2008). These trends undergird the demographic, political and economic dimensions of our nation and will define us in the next century (Preston & Hartnett, 2010). This is the volatile mix of accelerated technological dissemination, a rapidly aging white population that is being replaced by a young Latino demographic, and an educational system that is quickly becoming obsolete (Benkler, 2006; Preston & Hartnett, 2010; Freidman, 2005). The key to remedying this potential crisis is to take a critical look at leveraging our existing educational infrastructure in a manner that augments our production of high quality human capital to develop a competitive creative class (Junarsin, 2009).

Latinos have gone from being the largest ethnic minority group, to being the largest ethnic minority group represented on college campuses nationally in the past decade (Fry & Lopez, 2012). Yet they still lag behind their White counterparts in educational attainment (Fry & Lopez, 2012). Thus, I am brought to an examination of the matriculation of Latino males within the educational pipeline and the need to explore possibilities for remediation throughout the pipeline.

Chapter III – Framework and Methodology

Latinos as a whole face a plethora of challenges like language, cultural, and institutional barriers as well as issues surrounding agency, which require institutional realignment in the K-16 trajectory (Conchas, 2001). Currently, a wide variety of programs exist that have the ability to mitigate many of the challenges Latinos encounter in their postsecondary pursuits (Swail, 2000). These programs include federal, state and local programs such as Upward Bound, Talent Search, Student Support Services, McNair, GEAR UP, AVID, Project GRAD, I Have a Dream, and HOPE. These programs partner with universities, K-12 school districts, community centers, and leverage state and federal resources to provide the institutional capacity needed to promote Latino high school graduation (Santiago & Brown, 2004). In the following section, I examine the impact that these programs have in mitigating barriers by facilitating the development of economic, social and cultural capital.

The existing literature points to a positive correlation between precollege participation and college-going rates (Gullatt & Jan, 2003). Evidence also demonstrates a positive correlation between precollege participation and academic success. Two studies suggest that this pattern of success can be replicated in the Latino community. One of these studies showed positive results within a limited data pool. It examined a grassroots program called "Futures and Families"(Auerbach, 2004). This outreach program resulted in the students and parents having a better understanding of the college-going process, and expanding their social network, which gave students and parents' greater confidence in navigating the college-going process (Auerbach, 2004). Similarly, another program known as "Exito al Camino Universitario" focused on three components with positive results. These components consisted of college preparedness, career exploration, and academic skill building. A one year follow up on a cohort of 30 students

showed that 67% of seniors went to college, with 63% of juniors planning on going to college (Rivera-Mosquera, Phillips, Martin & Dobran, 2007). Although these data were derived from a very small cohort, it does demonstrate the need for such services in the Latino community.

Culture and Student Retention

It should be of no surprise that social and economic disadvantages and the multitude of ways that they are manifested as obstacles will by extension continue to affect Latino students as they persist through the latter part of their academic journey (Phinney, Dennis &Gutierrez, 2005). All of the literature reviewed thus far validates that mere access to postsecondary education does not constitute academic success. Instead, success is derived by how effectively the student is integrated into campus life. In a sense, this involves "the matching between a student's motivation and academic ability and the institution's academic and social characteristics which helps shape to underlying commitments: commitment to an educational goal and commitment to remain at the institution" (Cabrera, Nora, & Casteneda, 1993, p.124).

Perhaps the most important point to observe in the quest to understand Latino student retention is that they are not a homogeneous group. Rather they are a group who is culturally distinct from the mainstream population, yet diverse within its ranks (Longerbeam, Sedlack & Alatorre, 2004). Another study used a longitudinal survey of freshmen to examine the difference in perceived barriers to higher education by Latino college students. The authors noted that very little attention is given to the distinct psychological profiles of Latino undergraduates. These categories of students included: assimilators whose attitudes resemble those of non-Latinos, accommodators who perceive discrimination but adapt, and the resisters, these students perceive high levels of discrimination and feel distant from their White peers (Rivas-Drake, Mooney,

2009). Each of these groups had its own pathology and required a modified approach to student retention (Rivas-Drake, & Mooney, 2009).

This premise was also evident in the fundamental design of a retention program, LUCERO, for Latino college students in Lansing, Michigan. This is a tangible example of how formative feedback through surveys and focus groups can inform practice (Cunningham, Cardenas, Martinez & Mason, 2006). During the first year of the program's inception, the retention rate for Latino students was 80% compared to 56% for the general Latino population. The average GPA for students in the program was 2.63 and the average course load was 11 credits (Cunningham, Cardenas, Martinez & Mason, 2006). Program components helped mitigate traditional barriers associated with the Latino undergraduate experience by providing access to technology, ongoing community connections to reinforce positive role models, the retention of cultural identity, mentoring and providing a supportive climate that served to help solidify a student's institutional commitment (Cunningham, Cardenas, Martinez, & Mason, 2006).

Researchers further contend that retention professionals should be cognizant of cultural nuances like the Latino family dynamics, a positive attribute that can also serve sometimes as an impediment to postsecondary success (Phinney, Dennis & Gutierrez, 2005). While, on the one hand, Latino families place a high value on education as evident in their college enrollment rates, on the other hand, expectations that the adult children remain at home (especially females) and contribute financially (especially males) can impede the student's academic progress. As such, the traditional strategies of fostering student engagement (e.g., clubs, campus events and student organizations) may not be as effective with Latinos. Thus, requiring a concerted effort to establish campus connections through other vehicles like the classroom is essential.

Theoretical Framework: Social Reproduction

For Bourdieu (2003) it is possible to develop a model that represents the social space and depict the unique logic that exists through the statistical relations of various forms of assets or capital. Furthermore, any incongruence that translates into educational inequality, are also a byproduct of historic inequities and thus, lend itself to social reproduction (Bourdieu & Passeron, 1994). The most obvious example is the fact that children from higher income families arrive at school with certain advantages derived from their wealth. This wealth can be further deconstructed as all of the tangible and intangible capitals that are available. These are different species of capital that include: economic capital, social capital, cultural capital, and symbolic capital (Bourdieu, 1986). In the case of my research variations of these forms emerge in the form of family support, financial literacy, peer advising, campus involvement, study skills, teacher/mentors, financial resources, and academic support resources.

To understand how these forms of capital are negotiated throughout the academic trajectory of low-income first generation students, it is imperative to understand how various species of capital are negotiated and transformed within "fields." These fields are unique spheres of behavioral expectations (i.e., the field of education, music, art, military or church). In addition, actors occupy spaces in these fields; they are influenced by them and also project influence into these fields through their own agency. These fields are structurally distinct and defined by objective relations, agents, institutions and a unique form of logic (Bourdieu, 1985). The players are always in a state of tension jostling for position. In the case of my research, these tensions are defined as explicit or implicit academic competition and the goal of getting into the right schools, which inevitably has lifelong implications. Similarly, the educational system is viewed as the overarching superstructure. K-12 and postsecondary education, are viewed as distinct

fields. Likewise, in Bourdieu's tradition of social analysis, instances occur where the educational structure in itself serves as an impediment. Thus, precollege programs are seen as a means to mitigate these impediments that translate into social reproduction.

Knowledge, Education, and Human Capital Formation

Over the centuries, paradigm shifts have occurred with each major socio-political and economic transformation. Whereas the medieval era perpetuated the idea of divine of right to justify the existing social and political order of the day, the modern and postmodern era justifies the status quo through the myth of the meritocracy (Goldthorpe, 2003). This notion of meritocracy has become so thoroughly engrained in popular discourse and social systems that modernists and postmodernists esteem this myth with the equal reverence that was once reserved for institutionalized nobility. Although structuralist like Marx attempted to demystify class-consciousness and the internalized subjugation of proletariat (Marx, 2010), his analysis of the collective does not adequately account for individual agency. It is, therefore Pierre Bourdieu's concept of social reproduction that combines structuralism and constructivism and better informs how the actors in my research make sense of the structures that they navigate (Bourdieu, 1985).

According to (Gibbons, Limoges, Nowotny, Schwartzman & Scott, 1999) knowledge is produced by configuring human capital. Yet unlike its counterpart of physical capital, human capital is more malleable and can be configured multiple times to generate new forms of specialized knowledge. Hence one is brought to today's philosophical paradigm where "information is the currency of the realm and education is more valuable than ever" (Taylor, 2010, p. 6). The economist Theodore Schultz understood this emerging reality when he stated "laborers have become capitalist not from a diffusion of the ownership of corporation stock, as folklore would have it, but from the acquisition of knowledge and skills that have economic

value."(Shultz, 1961, p. 3) Similarly, he understood that the low earnings of African-Americans, Latinos, and Native Americans reflected a failure to invest in their health and education.

Along this line of reasoning and agreement with Schultz (1961), Mursa (2007) asserted that the problem of economic growth does not find its origin in the lack of physical capital but the educational quality of the population. Mursa argued that poverty has its origins in a lack of human capital, not monetary capital. Two other economists from the Chicago School likewise reinforce this link between education, human capital formation and a reduction in poverty levels many years before it became vogue. Mincer (1958) studied personal income distributions across life cycles and found life earnings resembled an inverted U-shape pattern with more growth in jobs with higher levels of skill and complexity. Likewise, Becker (1962) discovered in his research that unemployment rates are negatively correlated to skill levels. More contemporary researchers likewise echo this link with varying rationales about how proper human capital development through education is conducive to a country's economic prosperity. According to this theory, higher quality human capital facilitates the absorption of superior technologies (Barro, 2001). This concept is manifested and operationalized by contemporary corporations who seek to sustain an advantage over competitors. They understand that the stock of human capital in a firm comes from employee selection, development and use (Hatch & Dryer, 2004).

Yet, human capital theory also has its detractors, mainly focused on the philosophical and methodological aspects. From the standpoint of methodology, it places individual at the center and assumes complete human agency over social structures. In addition, inferences to predict behavior are drawn from rational choice theory that assumes consistent tastes, an unfettered and a clear understanding of all costs, and the clear goal of maximum utility (Tan, 2014). Thus,

many adherents of human capital sometimes err in an overly mechanistic, one-dimensional view of human beings (Baptiste, 2001).

Precollege Programs and Species of Capital

Nesting the research within a broader theory of social reproduction can best account for the transformative process that occurs to Latino students who matriculate through the educational institutions (Bourdieu & Passeron, 1994). A student is not a blank slate, but rather an active agent who enters a society comprised of multiple spaces and subspaces with a unique set of dispositions and access to different forms of capital (Bourdieu, 1993). These dispositions can either help or hinder them in the educational process. Furthermore, these institutions each have their own set of rules that must be navigated if the student is to be successful in achieving their end (Bourdieu, 1993). This goal is the leveraging of one's existing species of capital (i.e., economic, social and cultural capital) into the coveted symbolic capital (a postsecondary education). Precollege programs are unique in that they facilitate agency by mediating the tension between the previous disposition and the rules of new fields of power during the transformative educational process. In essence, the programs assist the student (agent) with internalizing the necessary external values while simultaneously transforming their base of capital in the pursuit of a college education.

One aspect of critical sociology is to provide an analysis and critique of some aspect of society so as to better understand how hegemonic systems perpetuate social reproduction. It recognizes that social reality does not occur in a vacuum but rather is a byproduct of accumulated history (Bourdieu & Passeron, 1994). It is under the umbrella of critical sociology, and specifically with a focus on social reproduction and species of capital as defined by Pierre Bourdieu (1994) that I studied the academic trajectory of underrepresented Latino male students.

I examined how precollege interventions could disrupt the process of social reproduction associated with the academic history of these Latino male students attempting to access postsecondary education. Likewise, I used the concept of species of capital, as defined by Pierre Bourdieu (1977) to argue that precollege programs are versatile enough to improve access to the primary sources of capital: economic, human, social and cultural. Hence, by default these programs are also vehicles for transforming capitals and enabling better positioning within the respective fields of power. Table 1 illustrates this process.

Table 1
Precollege Transformation of Capitals

Species of Capital	Description	Examples	Understanding Doxa	Transformation of Habitus
Economic Capital	What you have	• Hard Money • Indirect Financial Support • Cash Equivalents • Loans	Financial literacy and the knowledge of how to leverage money for maximum value.	Accumulating financial currency, which is easily malleable into other forms.
Human Capital	What you know	• Literacy • Numeracy • Writing styles • Speaking styles • Technology skills • Aptitude for testing	Knowledge from home may be seen as less valuable than knowledge from school.	Expanding competencies valued in school, especially academic skills sets.
Social Capital	Who you know	• Family relationships • Neighbors • Peer groups • Community members • Precollege Administrators	Children whose parents are connected with the school do better. Social networks matter and influence academic success.	Connecting students and parents. Relationships foster academic success by facilitating access.
Cultural Capital	How you know	• Social activities • Daily routines • Recreational experiences • Travel experiences • Adaptability to dominant culture	How well home and school values and beliefs connect; one way at home and another way at school.	Learning dominant cultural rules. Provided opportunities to engage, practice and develop multiple styles.
Symbolic Capital	How you are known	• GPA • Precollege program membership • College student • College graduate	Transmitting the right signals needed for entry into different fields.	Reaching milestones: high school graduation, college admission and college graduation.

Research Questions

The goal of this research was to understand the extent to which existing outreach programs could be leveraged to increase the postsecondary admission, retention and graduation rates of Latino males. The very act of obtaining a postsecondary degree is a byproduct of a complex series of societal inputs and outputs, which is difficult to codify. However, previous research by Perna (2000) showed that participation in precollege initiatives, for minority youth, provided predictive variables that could make a difference in the decision to pursue postsecondary education. As a result, this predictive variable was evaluated, for Latino males, relative to the three major milestones throughout the educational trajectory: postsecondary access, retention and graduation. Hence, the following questions informed the scope of my inquiry.

1. What factors of a Midwestern precollege initiative influence the college-going rates of Latino male youth?

2. What factors related to previous participation in a Midwestern precollege initiative affect the college retention of Latino male youth?

3. What aspects of previous participation in Midwestern precollege initiative translate into postsecondary degree completion for Latino male youth?

It was through asking these questions that I was able to assess the immediate effects of participation in precollege initiatives and identify any long term and significant influences on degree completion.

Research Method

The ensuing section will discuss the method I used to undertake this study. The study utilized a modified version of Perna's econometric model, which was likewise nested within

Bourdieu's theory of social reproduction. The objective was to codify and quantitatively analyze how a vehicle for the upward social mobility (precollege programs) interfaced with the traditional educational trajectory to influence college access, retention and graduation rates (Perna, 2000). As such, precollege program participation at a Midwestern University served as the proxy in our study for what ultimately translates into a reconfiguration and transfer of prescribed measures of social, cultural, and economic capital in the cycle of social reproduction.

Design

Perna posited that the decision of a person to attend college was based on, "a comparison between the present value of perceived lifetime benefits and the present value of perceived lifetime costs," (Perna, 2000). In essence, the subject is either consciously or subconsciously simultaneously weighing short and long-term benefits of college with opportunity cost. These opportunity costs can take the form of giving up more enjoyment of leisure time or forgone earnings from employment alternatives. As such, the model had the ability to quantify some of the categorical variables involved in the decision to attend college, to remain in college or not remain, and to commit or not commit to a trajectory that ends in degree completion.

Moreover, while I recognize the malleable nature and unlimited potential of all students in the K-16 pipeline, I also acknowledge the uniqueness of each individual. Just as a production model recognizes the varying levels of refinement and quality of raw materials, it is likewise incumbent among researchers to recognize variables that indicate student academic quality and factor them into the probability for acceptance into a postsecondary education.

The model used by Perna (2000) is broad and comprehensive, encompassing many externalities that are not normally considered. She utilized the following variables: college enrollment, direct cost, labor market opportunities, future benefits, financial resources, academic

ability, curricular program, social and cultural capital. Under the category of social and cultural capital, more categories are disaggregated to include other proxies. These proxies serve as measurement of a general category that includes high school quality, high school desegregation, high school region, high school location, high school control, educational expectations, parental involvement in student's education, parent's education, peer encouragement for education, encouragement for other, help from school personnel with college admissions activities, and use of tools to prepare for college admissions test.

Table 2 illustrates the econometric model adjusted for data fields available at Midwestern University's Precollege Programs. It includes description of how each variable is defined, codified and adjusted to inform our particular research questions.

Table 2
Specification Table Linking Study's Variables to the Perna (2000) Econometric Model

Midwestern University Model	Study Variables
Dependent Variables	
College enrollment	Enroll in a postsecondary institution (1 = yes, 0 = no) in the fall after graduating from high school.
College retention	Retained after first year in college (1 = yes, 0 = no)
College graduation	Received a baccalaureate degree (1 = yes, 0 = no)
Direct Costs	
Tuition	Full time students. In-state tuition (1=yes, 0=no)
FTE Staffing	The number of full-time staff actively working the programs during the cohort year(fluctuating between 3 and 8)
Program Monetary Support	Total budgetary support provided to the program during specific cohort years
Labor Market Opportunities	
State unemployment rate	The state unemployment rate for Latino males during a specific year

Future Benefits	
Expected future income	Difference in average adjusted gross income for individuals age 25 to 54 of same sex, race, and region with a bachelor's degree and a high-school diploma.
Financial Resources	
Family income	The designation of family income is modified to describe a student as (low-income=yes, or non-low-income=no) This is defined by the federal government criteria for free and reduced lunch eligibility.
Academic Ability	
Grade Point Average	The last known high school GPA of the students
Curricular program	The number of times the students participated in a precollege activity throughout their involvement with the program
Social and Cultural Capital	
First Generation College Student	1=yes, 0=no
High school locale	The city of high school the participant's last known address is
High-school control	Control of high school: 1 = public, 0 = private
Free/Reduced Lunch	The percentage of the school district's population comprised of free and reduced lunch recipients
Precollege	The type of program which the student participated in (i.e. Upward Bound, Talent Search, Academic Excellence and Camps)

In order to make the original model (see Appendix A) more relevant to the unique aspects of Midwestern University, adjustments were made to variables within the model. The dependent variable of college enrollment remained the same, but I also added college retention and graduation as dependent variables. For direct cost, the tuition descriptor was modified to make a distinction between in state or out of state tuition charge. This is an issue that has become salient

considering the greater potential for undocumented students and changes in state policy considering residency status. In addition, direct cost also included total budgetary support for programs and the number of full time staff available to provide services. Labor market opportunities were updated via the most current population survey for the time of college enrollment. This was particular to the geographic region. Expected future benefits remained the same with the caveat of updated data for the calculation. The designation of family income was modified to describe a student as either low-income or non-low-income as defined by the federal government criteria for free and reduced lunch eligibility, as not all files had actual income levels. Academic ability was simply a measure of cumulative GPA and the variable curricular program was modified to reflect the number of times the participant specifically attended precollege events at Midwestern University.

Similarly, the categories under social and cultural capital are reconfigured and collapsed under a broader category of "First Generation College Student" and used as a proxy to take the place of parental education and parental involvement in student's education. Parental encouragement was omitted as it is rendered null because the assumption is made that parental authorization to participate in precollege programs constitutes parental encouragement. High school region and high school location were collapsed into two general categories urban and rural. High school desegregation was omitted altogether and replaced with a threshold that describes the high school free and reduced lunch composition at respective school districts, an indicator of environmental poverty. Peer encouragement, encouragement from others and the use of tools to prepare for college admissions were clustered under the category of precollege involvement. Finally, another variable (gender) was eliminated as the calculations were drawn a sample of only male participants.

Site Description

The institution selected for this research project, Midwestern University, is a doctoral granting institution that is part of an integrated and comprehensive state university system. Of its enrollment of 12,148 students, 10,969 are undergraduates. The institution is geographically located in a rural area in the southeastern portion of the state, which is surrounded by six of the state's largest urban centers. Each urban center has a population ranging from 50,000 to 1,000,000 inhabitants per metropolitan area. Since 1970, the institution has provided comprehensive outreach services to students who have not traditionally been able to avail themselves of the opportunities for higher education. During this time frame the campus has had: four TRIO programs (the McNair Scholars Program, Student Support Services, Upward Bound Program and the Talent Search Program); several state funded precollege summer academic enrichment camps; one privately funded precollege program; and eight campus funded college retention initiatives (African American Network, Pathways for Success, King/Chavez Scholars, Latino Student Programs, Minority Business Program, Future Teacher Program, Native American Support Services, and Southeast Asian Support Services). Midwestern University is within close proximity (50 miles) of the targeted communities and schools that its outreach programs serve. The vast majority of precollege participants live in poverty and face significant academic barriers (Warren, 2016, 9-5).

Overview of Programs

The Office of Precollege Programs at Midwestern University is dedicated to ensuring the barriers traditionally associated with socio-economic status do not impede promising students from obtaining access to and completing a post-secondary education. This objective has historically been achieved by forging relationships with students and parents as well as

partnering with local school districts and community-based organizations to provide supplemental academic support.

The organizational structure of Precollege Programs at Midwestern University is composed of four distinct yet interrelated subprograms: Upward Bound, Talent Search, Academic Excellence and Summer Academic Camps. The Upward Bound Program is a federally funded program that serves sixty-eight first-generation and low-income high school students at four targeted schools in the region. Services rendered include: periodic school visits (to provide academic advising), after school tutorial support, monthly Saturday College workshops and a rigorous six-week summer residential camp geared toward academic preparation and career awareness as well as a national educational field trip that exposes students to universities in other states. The Talent Search program is likewise a federally funded program; it services (700) first generation low-income students in grades 6-12 and provides them with tutorial support, school visits and Saturday College workshops. Academic Excellence is a privately funded program similar to Upward Bound and services likewise include: periodic school visits (to provide academic advising), after school tutorial support, monthly Saturday college workshops and a rigorous six-week summer residential camp geared toward academic preparation and career awareness. Summer Academic Camps are funded through the State Department of Public Instruction on a reimbursement system. These camps provide students with a 2-3 week academic, career, and cultural experience during the summer at the Midwestern University. These programs in their totality have served between 300 to 700 students annually (Warren, 2016, 9-5).

Description of Services

Orientation programs are scheduled at the beginning of the year for participants and parents. These events are design to introduce the staff to parents, review program expectations, discuss academic support services, and review the program schedule for the year. Key program highlights include the Saturday College Programs and Summer Residential Programs. Efforts are made to present the information in the first language of the parents.

Similarly, the curriculum is developed by the core group of staff, in conjunction with education professionals. The programs utilize campus faculty specializing in content areas as well as teacher field supervisors to maintain the integrity of the curriculum delivery.

Advising - The precollege staff provide guidance on appropriate course work for students to be proficient on the WSAS/ACT as well as helping students select college preparation coursework. Staff meets monthly with each student to review academic progress. High School students are strongly encouraged to take a rigorous curriculum including: four years of college preparatory English, three to four years each of college mathematics, science, social sciences, and at least one year of a foreign language (Warren, 2016, 10-12).

The advising process is a system by which the precollege staff works more closely with teachers and guidance counselors when a student has demonstrated an immediate need for intrusive academic support through low grades in a previous term. This system is designed to catch students before they fall too far behind in any area that will impact progressive learning and post-secondary grade requirements.

Tutoring is a major component of the academic year program. Tutors are recruited at Midwestern University, the target schools, and the community. An academic coordinator trains the paid tutors at the beginning of the academic year. Participants receive tutoring upon their

request or the request of their teachers, counselors, or parents, or when a grade in a particular course is "C" or below. Tutors also give participants tips on note-taking and other study skills. Tutoring occurs after school at the participants' high schools, or a minimum of two one-hour sessions per week.

Saturday College: This academic year program includes a monthly event on the Midwestern University campus. Topics may be presented through partnerships with the various colleges in areas such as science, technology, math and literature.

Summer programming: Participants find the greatest success when combining academic year activities with a summer experience. Summer camps ranging from one to three weeks are offered in June and July on the Midwestern campus for participants ages 11-17. Students are placed in groups based on math level, regardless of grade, to support and challenge students appropriately.

Middle school students and rising freshmen and sophomores are offered a one or two week camp. The two-week camp focuses on STEM subjects offering students an understanding of the educational preparation needed for these fields. Rising juniors and seniors are offered a three-week camp that focuses on math, science, and research writing in a college preparation format. Students have an on-campus experience that partners students with college students as research mentors. ACT preparation is offered to all students rising sophomore and above who would prefer a two-week intensive ACT preparation. This camp focuses on each section of the ACT as well as test taking skills with a pre and post-test administered (Warren, 2016, 10-12). Evenings during the week are spent with tutors, study groups, mentors, or for advising, followed by guest speakers or other cultural/social activities.

Exit Interviews: At the end of the program, graduating seniors meet with the staff for an exit interview. They evaluate their precollege experience and sign consent forms for information to be released to the program by the college they attend. Exit interviews are also completed whenever possible in the case of students leaving the program prior to secondary graduation. The staff also assists seniors in completing college applications and confirms each senior's postsecondary enrollment through exit interviews and communications with admissions counselors. The staff also assists students with orientation and housing forms along with initial college course selection and the Free Application for Federal Student Aid (FAFSA) completion (Warren, 2016, 10-12).

Site Selection

The selection of this research site was done with specific intentionality. The institution is geographically positioned so as to draw students from cross sections of society. Students hail from large inner city environments, more affluent suburban centers, small cities and isolated rural areas. Also, given the long-standing history of affirmative outreach to marginalized communities, there would be a longitudinal perspective on which to examine interventions with marginalized groups. Conversely, other campuses in the region either were very selective or drew a large segment of the incoming students of color from out of state, thus, diminishing the link between the institutions' outreach program and regional engagement.

In addition, the research site was the only doctoral granting institution with the bulk of its students of color, particularly its Latino students, derived from the local region. Having postsecondary access, retention and graduation information tracker by one institution was seen as a good way to explore the nuances of precollege participation.

Lastly, the Latino population served at Midwestern University closely trails the national demographic trends associated with the Latino population growth. Between the years 1980 and 2012, the U.S. Latino population increased by over 250% (Calderon, 2015). In the past ten years, the representation of Latino students on the campus of Midwestern University grew by 300% (Office of Institutional Research, 2015). This has brought the Latino population from being the second largest racial/ethnic minority group on campus to being the largest racial/ethnic minority group represented on campus. This institutional trend parallels the demographic pattern that has occurred in colleges across the nation during the same time frame (Fry & Lopez, 2012). Currently Latinos comprise 5.9% of the campus population; a percentage that is commensurate with the representation of this population in the state.

Data Collection

Midwestern University has a long history servicing the surrounding community with precollege programs funded by an array of grants from institutional, county, state and federal sources. Therefore, the university is mandated to track programmatic progress towards objectives. As a result, Midwestern University generates volumes of data for annual reporting purposes. Hence, the institution had a plethora of information from which to reverse engineer a longitudinal database which had variables that could be manipulated to unearth probabilities associated with precollege participation and postsecondary success (i.e. access, retention and graduation).

Given the broad range of categorical data that was present in historic archives and reports, I employed a systematic process for data collection that helped discern between useful data and unnecessary data. The objective was to unearth meaningful patterns through a process

of discernment. The most feasible way to accomplish this was by employing the Knowledge Discovery in Database (1996) approach (see Figure 2).

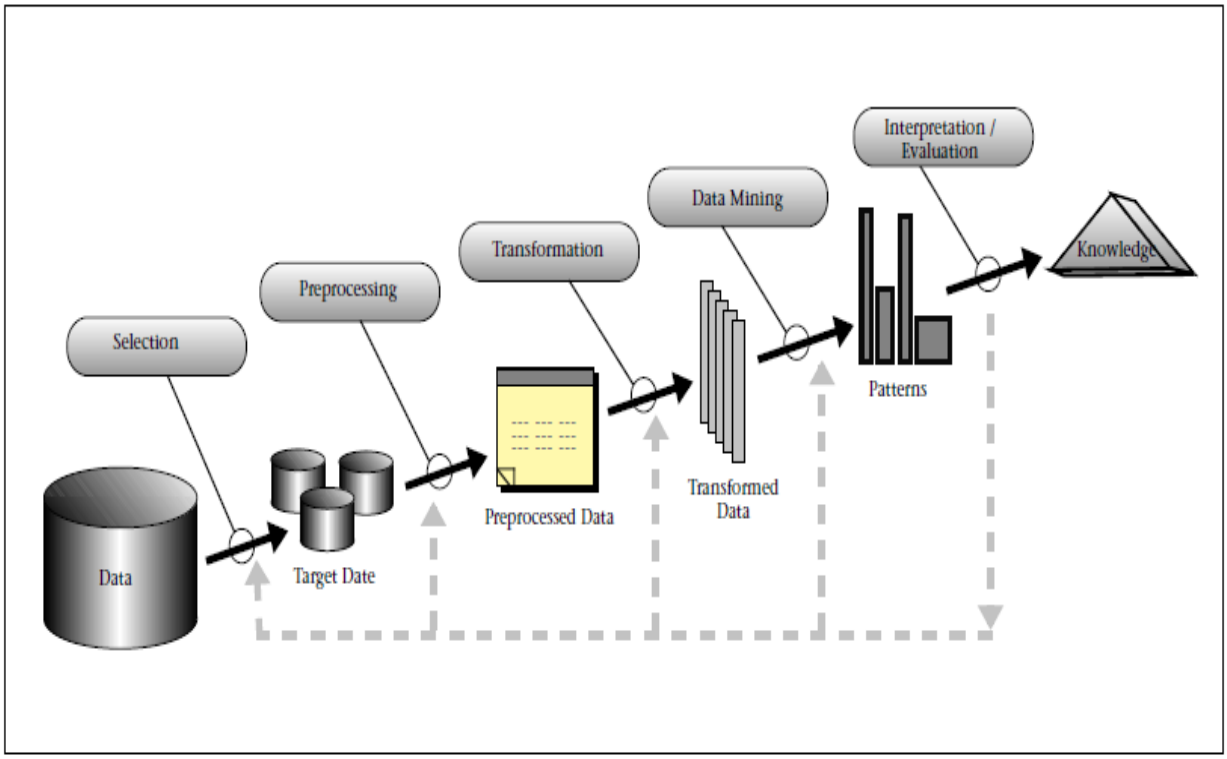

Figure 2: KDD Process (Fayyad, Piatetsky-Shapiro and Smyth, 1996)

This is an interdisciplinary approach that involved six clearly defined sequential steps. The first step was to understand the application domain and parameters to select the raw data. The second step entailed creating a target data set from which to begin to process the raw data. In the third step, the data was transformed by removing noise in order to refine the data pool. The fourth step began the data mining process by data reduction for the identification of the appropriate number of variables. The fifth step involves interpreting and evaluating by summarizing and classifying in the form of a logistical regression model. The last stage is the exploratory phase where the hypothesis was tested and the data analyzed by SPSS with the end result of knowledge creation. It was at this juncture where the research coalesced to inform on the question of precollege participation for Latino males and any cause and effect relationship to

college access, its influence on college retention and graduation, as well as any other correlated links.

Statistical Methodology

Since the statistical model utilized was a modified version Perna's (2000) econometric model, it stood to reason that a comparable descriptive statistical methodology was used for the analysis of the data procured. Given that the dependent variables were dichotomous variables, the most appropriate tool for analysis was logistical regression. This entailed representing the binary discrete phenomena as a variable with a value of either 1 or 0, the mean dichotomous indicator equal in proportion to 1, which could then be interpreted as a probability (Pampel, 2000). Using this method, the researcher was able to resolve problematic issues that would be associated with an ordinary logistical regression model. These issues encompass the problems of nonlinearity, nonsensical predications, non-normality and heteroscedasticity, all of which have the potential to negativity influence the inferences derived from the data (Agresti, 2007).

By changing the binary dependent variable into a logit, these problems were resolved. This adjustment was important and proved very useful in the interpretation of coefficients, which occurred later in the process of analysis. In essence, by "linearizing the non-linear relationships, logistic regression also shifts the interpretation of coefficients from changes in probabilities to less intuitive changes in logged odds," (Pampel, 2000, p.18). After correlating the predicated probabilities associated with R and R2, one is then able to compute the standard deviation of Y, the standard deviation of X, and the logistics regression coefficient, observing the standard deviation change in the logit for a standard deviation change in an independent variable (Agresti & Finely, 2009). In doing this, I was able to observe the college going rates; retention and

postsecondary graduation based on a combination of variables associated with precollege intervention, and competition within emerging fields of power.

Instrumentation for Data Analysis

For the purpose of conducting this quantitative research, I used the Statistical Package for the Social Sciences (SPSS). This program is considered acceptable for statistical analysis through the use of logistical regressions. SPSS has the capability to compare variables and can be downloaded into a variety of formats. This program has been historically recognized as the standard in social science analytics able to describe trends. (http://www-03.ibm.com/software/products/en/category/predictive-analytics, 2015). It is adaptable for linear regression models and has an array of tools and features available for research allowing for greater conceptualization of variable comparison, and is particularly useful for probit and logit analysis.

Limitations

First, it is important to recognize that college access, retention and graduation is a complex process and an experience that does not occur in a scientific lab. Rather it occurs within the multifaceted social reality that is everyday life. As such the study is limited only to the data that can reasonably be quantified and observed for patterns and disruptions in those patterns. The first limitation involves the baseline comparisons of students upon admission into the program. For instance, the outreach program works in over eight different schools districts, each with varying levels of funding and academic rigor. As such, even if one could quantify a specific amount of value transferred by participation in the program, this does not necessarily translate into the same academic profile or competencies upon high school graduation.

Also, depending on the precollege program that the student participated in, the child would have experienced varying levels of staff-to-student contact during the summer residential programs. In addition, the self-identification of the Latino label is a broad category that does not account for the cultural nuances of national identity, signal language ability, immigration status, how many generations in the country and or level of cultural assimilation. A fourth limitation involves phenomena that is likewise quantified as similar yet is qualitatively different. This example involves the assessment of what is deemed as low-income. This is generally evaluated as 150% of the poverty level according to U.S. Department of Education. Yet, family structure may have a profound effect on college going rates. Students in a two parent household are generally going to face a less extreme form of poverty and less instability than a household headed by a single mother (Astone & McLanahan, 1991). Thus, there are added layers of vulnerability within the designation of low-income that will not be evaluated, yet have a tremendous impact on college retention. In addition, different majors on campus have varying levels of academic rigor associated with them, a factor that would invariably influence retention.

Also, it became clear early in the research that the vast majority of Latino male precollege participants, did not enroll at Midwestern University. Thus, the scope of the inquiry had to be broadened to include college enrollment, retention and graduation in a general sense not solely restricted to Midwestern University. Coincidently, this information was available in the database, as the precollege program tracked this information to demonstrate that they were not exclusively recruiting for Midwestern University. Ultimately, this unexpected roadblock did not quantitatively or qualitatively affect the original research agenda, with the exception of not having enough data to include scholarship information as a variable indirect cost.

Finally, there were methodological limitations. Since this was a quantitative study that utilized logistical regression, there are inherent constraints due to the nature of the research, which cannot account for every case demonstrated by as an outlier. The same advantages associated with a rich depository of data points, as a result of maintaining programmatic and fiscal compliance, also served as limiting parameters. In other words, the eligibility criteria was previously collected and archived, providing variables that can be tracked throughout space and time. If however, in the course of conducting research, a question arose as to how other variables may interface with the model; we were not be able to address these questions if the information had not been initially collected. Unless emerging questions were encompassed in the fields that were tracked in the original raw data, it was almost impossible to replicate them with the same integrity as in the initial collection process.

Chapter Summary

Current paradigm shifts require innovative approaches to promoting the academic success among historically marginalized groups (Gullatt & Jan, 2003). This is especially true for the Latino population, who has seen dismal rates of academic success among its male population (Saenz & Ponjuan, 2008). In this study, the fluid college-going trajectory of Latino males was codified in an econometric model developed by Perna (2000). By modifying this existing model to distinguish for gender and account for precollege enrollment, the researcher incorporated previous experiences (precollege participation) and future decisions to forecast the probability of college going, retention and graduation. Furthermore, given the parameters set forth, logistical regression was the most viable approach to data analysis because it accounted for the dichotomous nature of the variables represented (Pampel, 2000). This methodology resolved issues associated with non-linearity, nonsensical predictions, non-normality and

heteroscedasticity (Agresti, 2007). Lastly, the host institution had a plethora of documented data regarding the targeted population stemming from years of annual reports and compliance mandates (Office of Institutional Research, 2015). These robust data pools enabled a scholarly inquiry limited only to the scope of previous reporting requirements.

Chapter IV – Findings

The database used was longitudinal in nature with information dating from 2003 to 2016. It was comprised of 6,665 unique records and of these 4,046 were female participants and 2,579 were males. The remaining 41 records had no information related to gender. The racial demographics of students served during this time frame were as follows: 55% African-American, 17% Latino, 7% White non-Hispanic, 9% Southeast Asian, 5% Native American and 7% listed their race as "other". Of the 1,126 Latinos who were served between 2003-2016, 58% were female and 42% were male. This gave use a data pool of 473 to conduct our research, the minimum recommended for chi square logistical regression ranges from 30-50 data points (Peng, Lee & Ingorsoll, 2002). Of our sample size, 38% enrolled in college, 60% were retained after the first year and 25% graduated from higher education. The population was overwhelmingly low income because 71% was at or below poverty level. This information on income was verified by third party sources (school administrators or tax forms) during the original data collection process, before admission into the respective programs. In addition, 67% of the students were listed as first generation (college going) status. This number I believe is grossly underestimated for two reasons. First, it is self-reported on applications and not verified by a third party source the way income is verified. Secondly, when translated to Spanish, the term first generation (college going) status can easily be misunderstood as first generation (immigrant status).

A preliminary review of data was then conducted to examine the potential association between the variables. This was done to identify possible relationships between clusters that might maximize the predictability and strength of variables within models. A bivariate correlation (Agresti & Finaly, 2009) was conducted based on all possible variables with dependent variables: college enrollment, college retention, and college graduation. Included in

the calculation were the variables of: cohort year, monetary program support, FTE staffing support, post-secondary type, tuition, unemployment rate, family income, GPA, Curricular Program, first generation status, high school locale, free and reduced lunch, precollege program type, and future income.

Fitting the Model to the Data

The processing of the raw data into a composite spreadsheet, sufficiently refined to be imported to SPSS and used for statistical analysis was a laborious undertaking. It involved examining all of the available fields of data (see Appendix B) available in the database and reports, assessing the depth and breadth of its quality, and then examining which fields align with which aspects of the Perna (2000) econometric model. Within the database there were nine basic categories: student information, academic information, program participation, a college ready worksheet, test assessment, summer registration, summer grades, IEP and accommodations and the exit interview. Each of these categories also had an array of sub-fields of information unique to each respective category. For instance, Student Information was comprised of name, address, free and reduced lunch status, GEAR UP status, parent's educational level, and English proficiency. The next category of Academic Information encompassed: school, graduation year, GPA, standardized test proficiency and completion of a rigorous curriculum. Within the purview of Program Participation, the date of entry was listed as well as the particular type of precollege program the student s participated in, whether Upward Bound, Talent Search, Academic Excellence or Summer Academic Camps. The College Ready Worksheet also had fields for class rank, ACT composite, what post-secondary schools they applied for and which they were accepted into. The Test Assessment section had information on ACT sub scores and state standardized test results for reading, language arts, and mathematics. The Summer Registration

section tracked the number of times they attended summer camps and which specific ones they attended. Likewise, the Exit Interview sheet inquired about the reasons for ending program participation, whether going to college, the military or starting a family.

After reviewing all of the fields available, I then began the preprocessing phase, which entailed examining each field to see how consistent the program had been in collecting all of the information potentially reflected in the data fields. What emerged was a pattern of inconsistent reporting. Some fields reflected in the database were only collected for a specific program and not the rest. This was due mainly to the reporting requirements unique to each specific program. For example, Precollege Programs encompassed both federally funded programs and state funded summer programs. The students who participate in the federally funded Upward Bound Program have greater staff to student contact during the summer term, totaling six weeks versus one to three weeks for the state programs. Both Upward Bound and Talent Search also had greater staff to student contact during the academic year. University staff, visit these students at their respective school on a weekly basis to provide academic advising, procure tutorial support, and provide general encouragement. In turn, those students who are not a part of the Upward Bound Program only receive staff to student contact during the Saturday College programs once a month.

The next step in this data-mining phase was to update all fields based on available data. Those fields lacking information were cross referenced against hard copy files of student records, which are required to be kept on hand in a secured location for auditing purposes. Any academic information that was found to be incomplete, in both the database and the hardcopy file was updated by faxing a copy of the release form in the file to the respective school and requesting the most recent transcript. Given that data maintenance was the administrative responsibility of

the program director, once a list of missing data was identified, it was included in the routine collection that the program does for reporting purposes.

The subsequent phase involved transforming the data in a manner that is useful for research and data analysis purposes. At this point, another look was taken at the specification table, which was a modification of Perna's (2000) econometric model, to see how well the model fit the data. This chronological review of the model began first with the dependent variables: college access, retention and graduation. The database was very consistent in collecting information related to college enrollment, as this is one of the main reporting requirements for the programs. The variable of college retention and graduation was also collected across all programs, although not required for all programs' to reporting. Only the federal programs specifically mandated reporting and tracking of first year retention and college graduation. The information was collected through a combination of the national clearinghouse system that tracks this information and personal follow-ups by precollege staff to periodically update the database.

As I moved through the variables and continued looking at congruence between the model and available data, I was brought to the variable of instate tuition. There was no field in the database that maintained a record on instate tuition versus out of state tuition. Hence, this information had to be represented by proxy. For those students whose records listed them as U.S. citizens or permanent resident and were attending post-secondary school in the state, it was deduced that they were paying instate tuition. For those students whose records showed that they attended an out of state school or were non-U.S. Citizens, it was deduced that they were paying out of state tuition rates.

In examining the field of financial aid, I also encountered limitations. We examined the database and verified that all students were required to fill out a FAFSA prior to completion of

the program. However, we were able to confirm scholarship aid only for those students that attended Midwestern University. This pool was not sufficient for statistical inference, as the vast majority of students did not attend Midwestern University. In addition, when examining the criteria for PELL Grant eligibility it was so closely aligned with the variable of low income and free and reduced lunch requirements, it was creating a problem of statistical redundancy and had to be eliminated from the model.

In regards to the state unemployment rate, nothing related to this field was available in the precollege database; thus, it was drawn from the U.S. Department of Labor and corresponded to each respective cohort year. The intent was to determine whether lower unemployment rates translated into greater opportunity cost, thus, impacting college access and retention. Likewise, the variable of future income followed a similar logic. For instance, if the difference between the earning potential of male Latino high school graduates and college graduates was below that associated with the average, it would stand to reason that they have less incentive to complete college. The variable of family income was very straightforward and captured in the database; students who were either eligible for free or reduced lunch or met the federal guideline for low income were noted as such. Similarly, the variable for grade point average (GPA) was merely the last recorded high school GPA. The number of times a student participated in the programs and a first generation status was information also identified very clearly in the database.

High school locale was gathered by checking the list provided on the Department of Public Instruction website. It was then cross-referenced with a list of existing schools in our records. To determine public or private school we cross-referenced the list of public school also identified by the State Department of Public Instruction. If schools were not on this list, their status was verified by first researching their website and calling the main office for clarification

of public or private status if this was not easily discernable. Likewise, when assessing local poverty levels, the State Department of Public Instruction website was used to determine what percentage of the district's student population was free and reduced lunch. In the event that this information was not available for a private school, I referenced the geographic location of the school and triangulated what the poverty rate of the local public school district was in which the private school was located. Lastly, the variable of gender was a non-issue as this information was easily accessible in the database, where participants self-reported their gender.

Statistical Analysis

The soundness of the logistical regression model was assessed through the following: an overall model evaluation, a test of individual predictors, goodness-of-fit and the validation of predicted probabilities (Peng, Lee & Ingersoll, 2002). The SPSS software accomplished this through six points of statistical inquiry: (a) the first classification table, this is essentially an illustration of the overall predictability of the null hypothesis; (b) the omnibus test of model coefficients; (c) the Nagelkerke R square; (d) the Hosmer and Lemeshow test, which determines goodness of fit; (e) a final classification table describing the overall model predictability; and (f) the significance of variables in the model (Achen, 1982; Agresti & Finlay, 2009; Peng, Lee & Ingorsoll, 2002).

Logistical regression calculations were then run for each of the dependent variables and different combinations of independent variables to identify predictability. Using a 90% confidence interval (Agresti & Finaly, 2009) for college enrollment, the variables for Precollege, GPA, FTE staff support were deemed significant. For college retention, four variables were also deemed significant and they include FTE staffing, GPA, family income, and high school locale. Similarly, three variables remained significant for graduation (i.e., FTE staffing support, GPA,

and unemployment rate). Table 3 below illustrates these findings for each dependent variable and its predictors.

Table 3
Model Evaluation at 90% Confidence Interval

Points of Statistical Inquiry	College Enrollment	College Retention	College Graduation
Null: Classification Table – % Correct	78.5	63.2	84.6
Omnibus Tests of Model Coefficients	.002	.000	.000
Nagelkerke R Square	.291	.349	.626
Hosmer and Lemeshow Test	.791	.769	.983
Model Equation: Classification Table–% Correct	83.5	76.5	89.2
Variables in the Equation:			
Precollege	.038		
GPA	.007	.059	.034
FTE Staffing	.066	.077	.007
Curricular Program	.104		
Family Income		.038	
HS Locale		.08	
Unemployment Rate			.017

Dependent Variable College Enrollment

The null classification table begins with the premise that there are no predictor variables. Under this assumption, the null hypothesis is showing an overall predictability of 78.5%. The objective is that the predictive nature of the model is increased with the addition of predictor variables over that of the null hypothesis (Hosmer & Lemeshow, 2000). Concurrently, the Omnibus Test for Coefficients is a calculation with all variables entered simultaneously (Hosemer & Lemeshow, 2000; Pampel, 2000). It compares the model to the null hypothesis and produces a chi square value. When the significance is less than a p-value of .10 for 90% confidence, it means that the model can be deemed statistically significant. The calculation for the college enrollment model was .002; which indicates a statistically significant model relative to the null hypothesis.

The Nagelkerke R square (Peng, Lee & Ingersoll, 2002) otherwise known in SPSS as the model summary, is very similar to R square in linear regression (Achen, 1982). It describes how much of the variance of the dependent variable is explained by the predictor variables. In the case of the college enrollment model, 29.1% or roughly one third of the variance of the dependent variables is explained by the predictor variables.

Another test of model strength is the Hosmer and Lemeshow test (Hosemer & Lemeshow, 2000). In this case I sought a p-value of less than .10 at a 90% confidence interval, which would indicate good predictive strength in the model. The classification table indicated 83.3%, demonstrating an increase in predictive strength over the null hypothesis by including the above referenced predictor variables, indicating a good model (Peng, Lee & Ingorsoll, 2002). This brings us to the section regarding variables in the equation, which reflects a crucial piece of information regarding the significance of each specific predictor variables and the odds ratio. Using a 90% confidence interval, thus, a .10 threshold, the following variables were shown to be significant with respective p-values, Precollege at .038, GPA at .007, and FTE staffing at .006 (see Table 5). However, greater clarity regarding these values is brought into the analysis when examining the odds ratio (Argesti & Finlay, 2009; Pampel, 2000).

Table 5
Variable Deemed Significant for College Enrollment

Variables in the Equation:	B	Sig.	Exp(B)	Δp
Odds ratio				
Precollege	.795	.038	2.215	.0017
GPA	1.225	.007	3.405	.0021
FTE Staffing	.382	.006	1.465	.0009
Constant	-3.195	.023	.041	

In essence, participation in Precollege increases the likelihood of college enrollment by an odds of 2.2, GPA has an odds ratio of 1 to 3.4 and FTE staffing at 1 to 1.4, which means that an increase in staffing of one unit, increases the likelihood of college enrollment by 40%. Moreover,

the variable of Curricular program was a non-significant but confounding variable whose presence increased the strength of the model and its absence reduced the strength. This phenomenon is known as the Simpson Paradox (Agresti & Finlay, 2009). Thus, its non-significant nature, did not inform the odds ratio, but its presence was required in the model as an additive factor. In addition, the conversion of the odds ratio into Delta p represents the probability of enrolling in post-secondary education for every one percent change in the independent variables deemed significant (Jackson, 2008). The Delta p values for Precollege, GPA and FTE Staffing are .0017, .0021 and .0009 respectively. Lastly, the above referenced information can be translated into a mathematical equation by aligning the Beta coefficients and accurately represented as:

$$logit[P(y = 1)] = -3.195 + .795x_1 + 1.225x_2 + .382x_3 - .348x_4$$

Dependent Variable College Retention

The null hypothesis in my study showed an overall predictability of 63.2%. Similarly, the Omnibus Test for Coefficients, at a confidence of 90% a p-value of .10, means that the model is statistically significant. The college retention model demonstrated .000; which indicated a significant model relative to the null hypothesis.

The Nagelkerke R square (Peng, Lee & Ingersoll, 2002) in the college retention model is, 34.9%, meaning that more than a third of the variance of the dependent variables could be explained by the predictor variables. The Hosmer and Lemeshow test (Hosmer & Lemeshow, 2000) at a 90% confidence interval indicated good predictive strength in the model. The classification table indicated 76.5%, a significant increase in the predictive strength over the null hypothesis of 63.2% (Peng, Lee & Ingersoll, 2002).

The variables in the equation reflected the significance of each specific predictor variables and the odds ratio. At a 90% confidence interval, and again at a .10 p-value threshold, the following four variables were shown to be significant: FTE staffing support with a p-value of .077, GPA at .059, Family Income at .038 and High School Locale with .08.

Table 6
Variables Deemed Significant for College Retention

Variables in the Equation: Odds ratio	B	Sig.	Exp(B)	Δp
FTE Staffing Support	.295	.077	1.343	.0007
GPA	.888	.059	2.431	.0018
Family Income	2.387	.038	10.876	.0018
HS Locale	.128	.08	1.136	.0003
Constant	-5.203	.001	.006	

As with the previous section on College Enrollment, in this section the odds ratio brings a greater depth of understanding. Essentially, FTE support increases retention by 34.3%. This is an interesting finding since none of the staff are directly working with any of the students during the time of retention. GPA increased the odds of retention by 2.4 times for every unit change and family income increased the odds of retention 10.8 times. In essence, family income becomes more and more of a salient feature as the student moves through the educational pipeline. High school locale translated in to a 13.6% change for every unit. Similarly, the conversion of the odds ratio to Delta p depicts the changes to the probability of retention for every one percent change in the independent variables (Jackson, 2008). These are represented as follows: FTE support .0007, GPA .0018 and HS Locale .0003. Again, the above referenced Beta coefficients (Agresti & Finlay, 2009) can be translated into a mathematical equation:

$$logit[P(y = 1)] = -5.203 + .128x_1 + 2.387x_2 + .888x_3 + .295x_4$$

Dependent Variable College Graduation

The null hypothesis showed an overall predictability of 84.6%. Similarly, the Omnibus Test for Coefficients, at a confidence of 90% with a p-value of .10, showed that the model was significant. The calculation for the college graduation was .000; which indicates a significant model relative to the null hypothesis (Agresti & Finlay, 2009; Hosmer & Lemeshow, 2000; Pampel, 2000).

The Nagelkerke R square (Peng, Lee & Ingersoll, 2002) in the college graduation equation was 62.6%, meaning more than a half of the variance of the dependent variables could be explained by the predictor variables. The Hosmer and Lemeshow test, (Hosmer & Lemeshow, 2000) at a 90% confidence interval, indicated good predictive strength in the model. The classification table indicated 89.2%, which showed an increase in predictive strength over the null hypothesis of 84.6%.

The variables in the equation reflected the significance of each specific predictor variable and the odds ratio. Using a 90% confidence interval, and again a .10 threshold, the following three variables were shown to be significant: GPA is .034, FTE staffing is .007 and the Unemployment Rate translates to .017.

Table 7
Variables Deemed Significant for College Graduation

Variables in the Equation: Odds ratio	B	Sig.	Exp(B)	Δp
FTE Staffing Support	1.11	.007	3.033	.0021
GPA	2.060	.034	7.846	.0021
Unemployment	-.625	.017	.535	-.0014
Constant	-8.224	.023	.000	

The odds ratio (Argesti & Finlay, 2009; Pampel, 2000) as it relates to college graduation reflects the following: an increase in FTE support raises the odds of college graduation by three times for every one-unit change. A good GPA increases the likelihood of college graduation by 7.8 times and unemployment rates have a negative effect on graduation, .535. Moreover, the Delta p

values (Jackson, 2008) for FTE staffing, GPA and Unemployment is as follows: .0021, .0020, and -.0014. Finally, the Beta coefficients (Argesti & Finlay, 2009) equate to the ensuing mathematical equation:

$$logit[P(y = 1)] = -8.224 - .625x_1 + 2.060x_2 + 1.11x_3$$

Chapter Summary

Over 13 years of data have provided information regarding the college going rate, retention, and graduation of Latino males participating in precollege programs at Midwestern University. Using logistical regression in an econometric model, the researcher was able to examine a wide variety of variables normally associated with precollege activities as well as social and economic influences. Based on this analysis, the following variables were found to be statistically significant at each critical juncture of the educational trajectory. Precollege participation, GPA, and FTE staff, were found to be statistically significant to college enrollment for Latino males. Curricular program was a non-significant variable but added value to the model. In addition, FTE, GPA, family income and high school locale were significant for college retention. Lastly, only three variables were found to be significant for college graduation: FTE staffing, GPA and unemployment. While most of these variables reinforced the common narrative regarding college access programs, some variables appeared challenge common assumptions.

Specifically, GPA was a significant variable across all junctures. Although this was actually the last known high school GPA, it appeared to be indicative of preparation, study habits and determination to persist academically. Precollege, FTE staffing, and curricular program were a reflection of resources earmarked to aid in college enrollment, thus, making a logical connection. Regarding college retention, high school GPA was still significant but less

significant than it was for enrollment. Also, from retention to graduation, issues related to poverty and socio-economic status became more relevant; in particular, family income and the poverty rates of their respective home communities and school districts.

Yet, for college graduation, two variables reflected a relationship not normally associated as a direct correlation to college graduation. The idea that GPA has an influence on college graduation is not a novel revelation, nor is the idea that marginalized students are vulnerable to socio-economic conditions. However, the idea that the number of people who staffed a precollege program in which a student participated 4-6 years prior to college graduation would be significant for Latinos males raise a plethora of questions. In addition, the idea that high school GPA can have such a profound impact on college graduation 4-6 years later is equally intriguing.

Chapter V – Discussion

Expansion of Perna's Econometric Model

The core of this research project is built on previous findings by Perna (2000) that focused on the differences in the decision to enroll in college by Whites, African-Americans and Latinos. These findings were pioneered through an econometric model (Perna, 2000) that was used to quantify factors that influenced the decision to attend college by various ethnic groups. By looking at the various forms of economic, social and cultural capital, Perna (2000) was able to identify proxy representations within a National Educational Longitudinal Study Database to examine statistical relationships. These proxies included the categories of: "direct cost, labor market opportunities, future benefits, financial resources, academic ability and social and cultural capital"(Perna, 2000 p.122).

Findings from Perna's (2000) research suggested that individuals with greater academic ability are more likely to enroll in college. In addition, college enrollment was higher among those who participated in college preparatory tracks, as peer influences were equal or greater factors in a student's academic performance. Likewise, college enrollment rates were comparable for Whites and African-Americans when controlling for cost, benefits and resources. This was not the case with Latinos, as it was believed that there were unique social and cultural interactions particular to Latinos (Perna, 2000). Thus, Perna suggested a number of directions for further inquiry that included not just examining the decision to go to college but the college going process itself. It was also suggested that greater attention be paid to the social and cultural capital unique to each ethnic group, as well as labor market opportunities. Similarly, it was suggested that two-year college also be included in future studies for Latinos since they had such a high propensity towards these institutions. Hence, the expansion of Perna's model includes

these recommendations in the current research project at Midwestern University. The table below illustrates these modifications.

Table 8
Additions to the Perna (2000) Econometric Model

Perna	Ortiz
Sample	Sample
• National • African American, Hispanic, White • Male and Female	• Regional • Latino • Male
Dependent Variable	Dependent Variable
• College enrollment decision (4-year colleges only)	• College enrollment (all post-secondary) • College retention • College graduation
Direct Cost	Direct Cost
• Tuition • Financial Aid	• Tuition • FTE staffing (Human Capital Investment) • Precollege program monetary support
Academic Ability	Academic Ability
• Test scores	• GPA
Social and Cultural Capital	Social and Cultural Capital
• Parent educational level • High school region (national)	• First generation college student • High school region (exclusive to state level) • Free/Reduced lunch as % of school district population • Precollege; the type of program the student participated in (i.e. Upward Bound, Talent Search, Academic Excellence, and camps)

Hence, the expansion of the Perna (2000) model for my research began first with a shift in focus from the decision to attend college, to a focus on the entire college going trajectory. This college going trajectory was represented by the milestones of college enrollment, retention and graduation. Secondly, the sample was chosen with specific intentionality to be cognizant not only of the social and cultural interactions associated with ethnicity but with gender as well. Similarly, the data available at Midwestern University enabled the inquiry to be more expansive in the

definition of direct cost as it related in particular to Precollege programs, with opportunity to distinguish between monetary support and human capital investments (FTE) into the programs.

Thus, the findings of the research at Midwestern University validated the statistically significant relationship between academic ability (GPA) and the various milestones (i.e. college enrollment, retention and graduation). Although at each critical juncture different combinations of variables were deemed significant, one variable previously not identified by the Perna (2000) model was shown to be statistically significant across all juncture within our expanded model. This was FTE staffing, or the representation of precollege participation. What made this variable especially noteworthy was the fact that beyond college enrollment, there was very little direct interaction between staff and precollege participants in ensuing years, yet, it still retained statistically significance. This variable merits additional examination through a social network analysis of relationships established through a student's precollege participation, and the qualitative nature of these interactions over time.

Relationship to Previous Research

In the process of examining the Latino male educational pipeline, the results bear an uncanny parallel to studies on other male students of color. For example, current research demonstrates that Black males experience successive waves of attrition occurring at every critical juncture (Jackson, 2008). In addition, previous studies demonstrate that being African-American and male translate into a higher risk for educational failure and a propensity towards special education assignment, suspension, and expulsion (Jackson, 2008). Like their African-American counterparts, Latino males reflect similar experiences within their educational journey and likewise consistently underperform relative to their White peers (Jackson 2008; Saenz & Ponjuan, 2008).

A further examination of the limited research on the Latino male pipeline reflects the findings that resulted from this research project. What has emerged is a milieu of intersecting spaces that are affected the contemporary issues associated with race, gender, culture, socio-economic and legal status. For example, evidence from the University of Texas Austin's Project Male suggest that Latino males had extremely low rates of student to counselor interactions regarding post high school plans: only 58 % (Saenz, Ponjuan & Figueroa, 2015). Moreover, when students engaged in high school programs designed to prepare them for college, they were more likely to be positively influenced with regard to their post high school plans (Saenz, Ponjuan & Figueroa, 2015). This information was corroborated by the research project at Midwestern University, which showed precollege participation as significant to the college enrollment of Latino males.

Similar to the positive correlation uncovered in the course of the statistical analysis, precollege experiences were a significant factor not only in college access but in college persistence as well. As such, the findings regarding precollege participation and college retention validated previous studies showing that "the role of precollege experiences in the ability of Latino males to matriculate and persist in their second year was compelling (Saenz, Ponjuan & Figueroa, 2015, p.159). As like in previous studies, Latino males who accessed higher education and who were retained at levels commensurate with their White peers had a more rigorous high school preparation. This was analogous to reports that Latino males who demonstrated "easy transition to college benefited from high school curriculum including advance placement course and international baccalaureate programs" (Saenz, Ponjuan & Figueroa, 2015, p.166). In our case, GPA was indicative of a propensity for enrollment, retention and graduation.

While structural barriers that are socio-economic in nature are an area where this research study finds common ground with previous studies, the findings regarding the cultural dimensions find many points of intersection. For example, a national survey of Latinos found that the family expectation of young men contributing to the family unit was at odds with college going aspirations (Saenz, Ponjuan & Figueroa, 2015). The current research project demonstrated a clear connection between college retention, family income and local poverty levels that were statistically significant. In essence, the more challenging the student's economic circumstances, the greater the opportunity cost of staying in college. Hence one area that merits further study is the examination of the competing cultural values that are on the surface equally noble but force students to choose between graduating from college versus helping to provide for their family. Our findings also validated the notion that "males who lack social capital from parental factors are at greater risk than those from high social capital of not completing a higher education degree," (Saenz, Ponjuan & Figueroa, 2015, p.25). According to the research at Midwestern University, higher levels of staffing in precollege programs, which facilitates the development of social capital, becomes more relevant later in their educational journey toward graduation. The findings also reinforced previous studies that indicate that students of color (including Latinos) tend to view college education as a vehicle for workforce and professional development (Conrad & Gasman, 2015).

Implications for Theory

The theoretical framework used to conduct this study was based on the notion of education and social reproduction (Bourdieu & Passeron, 1977). According to this worldview, society is comprised of various fields of power, each with its own unique form of logic. As agents enter into these fields, they come with a previous set of dispositions and have access to

various forms of capital. It is thus, "the kinds of capital, like trumps in a game of cards, are powers which define the chances to profit in a given field" (Bourdieu, 2003, p.230). In light of this theory and congruent with the framework of social reproduction, the research project sought to link, "the statistical relations between assets that the economic field tends to impose its structure on other fields," (Bourdieu, 2003, p.230). It is within this philosophical tradition that Perna (2000) formulated an econometric model to forecast the probability of college-going behavior for minority youth, a model that was modified to conduct the prescribed research on Latino males.

The findings of this research project indicate a high rate of attrition from the post-secondary pipeline for Latino males when controlling for socio-economic status. For students in my research, family income had a statistically significant influence on college retention, and unemployment rates had a statistically significant influence on graduation. This validates the concept of social reproduction, which is also corroborated by the social capital framework of Stanton-Salazar (1997). According to this concept, which builds on Bourdieu's idea of cultural capital and is aligned with our research findings, the laws that govern economics are applicable to human relationships. Thus, social capital is cumulative, possesses the capacity to produce benefits; is convertible to other tangible resources, and possess the capacity to reproduce itself (Stanton-Salazar, 1997). Similarly, both Bourdieu and Stanton-Salazar reinforce the finding of my research, which demonstrates that the journey from being non-college educated to being college educated is a complex landscape wrought with obstacles that needs to be navigated which necessitates interventions and guidance from precollege services and hence constitutes a transfer of social capital. While Bourdieu expounds on the value of social capital in Reproduction in Education and Society (2003), Stanton-Salazar (1997) argues that social

networks are conduits through which the effects of social class, race and gender are transmitted. Similarly, as reflected in the findings from Midwestern University, these conduits, whether organic or institutional in nature, can serve as a lifeline where Latino male youth can access resources, enabling them to transform opportunities and disrupt the process of social reproduction. This is evidenced by the fact that across all critical junctures examined in this study, some element of precollege programming was deemed significant (e.g. precollege participation and or FTE staffing).

This idea that the transformation of capital can significantly alter the cycle of social reproduction is also validated by the research findings. For instance, the probability of Latino males accessing college is significantly higher for precollege program participants than the general Latino male population (Huber, Huidor, Malagon, Sanchecz & Solorozano, 2006). Moreover, a review of the data indicates that GPA, if taken as a representation of human capital development, was significant across all critical junctures. This demonstrates a clear a pattern where social, cultural and economic capital is being transformed into the most portable form as human capital.

When further studying Latino males, it is important to recognize the unique cultural contexts. This research uses the term "Latino" with full consideration of the competing ideological tensions that exist in contemporary academic circles between notions of cultural nationalism and the pan ethnic idea of Latinidad. An either or dichotomy would fail to acknowledge the historical context of culture and the current phenomena of convergence in the United States (Garcia & Rua, 2007). A strict interpretation of cultural nationalism, in essence, could be further deconstructed by cultural artifacts that are regional in nature and sub sets of national origin, invalidating the notion of a national culture as well. Furthermore, Latinidad, like

all culture is not static but rather dynamic. It is a consciousness that is scale shifting and place specific (Price, 2007). Hence, while it is important to be cognizant of the differences of national origin, it is equally important to be conscious of salient commonalities. The notion that an identifiable U.S. minority that shares a common history of Spanish colonialism, a common mother tongue, common religious underpinnings, a common experience of immigration to United States and a common history of discrimination and oppression can share an overarching culture, is not an anthropological overreach.

In addition, when discussing masculinity, it is important to note that most of the current research on masculine identity focuses on White men in particular (Saenz, Ponjuan & Figueroa, 2015). The Latino male experience encompasses cultural layers associated with familismo, machismo, and cabellerismo (Mirande, 1997). These cultural factors, alongside the added ingredient of poverty and racial bias, lead to a distinct experience in the educational system, which would not have been captured in this study.

This cultural ethos needs to be taken into account in the theoretical frameworks employed in future research into social reproduction. This is especially relevant since the ethos of the U.S. educational system rests on individualistic values versus collective cultural values normally present in traditional Latino cultures. Another approach is to explore how the econometric model utilized for this study could be expanded to include a broader definition of capital akin to what Yosso (2005) describes as Community Cultural Wealth (CCW). The findings of our research contend that the logic of Bourdieu's concept of cultural capital is sound; however, expanding this conceptualization may help educational researchers and practitioners to better understand social reproduction in relation to racial and gender dynamics represented in the data pool.

For example, Yosso (2005) believed Bourdieu's theory was insufficient. He describes six forms of capital: aspirational, familial, linguistic, navigational, resilient and social. Given the statistical result of the econometric model tested in our research, there was a positive correlation to college access related to key forms of capital. However, in order to examine this relationship in greater depth, it is essential to analyze each category of capital to explore how variations are influenced by cultural nuances that in turn influence access, retention, and graduation. Some other areas that merit greater examination include taking a more codified version of Bourdieu's notion of habitus and tracking changes in this habitus over time. This analysis could measure levels of cultural assimilation and academic integration in relation to the changing value systems of Latino males. Research done by contemporary anthropologists has shown how certain immigrant groups draw on distinct cultural resources not present in other social spaces to succeed in society (Santon-Salazar, 1997).

Likewise, this augmented approach to understanding the various species of capital would not only redefine how one views cultural capital and its interaction with social capital, but will also have reverberations within the other closely affiliated frameworks like that of human capital theory. Human capital theory, as defined by the Chicago School, may require renewed introspection in regards to new changing cultural underpinnings of individualism versus collectivism for a growing demographic of students. This paradigm shift may open the analysis of social reproduction with an inevitable and renewed conversation on consciousness and class struggle. Hence, within this philosophical genre, social reproduction for Latinos might be disrupted by an approach to human capital development that embraces a collectivist approach. Thus, researchers would consider not just social and economic factors but also examine political and ideological factors with collectivist underpinnings (Harnecker, 1983).

Policy Discussion

The purpose of policy is to weave together a framework from which to direct institutional priorities, coordinate efforts and harness momentum. Good educational policy is responsive to stakeholders and helps minimize the tensions between various competing spheres in academia, politics, governance and the market (Burke, 2005). In the case of this research, policy making entails making a clear connection and linkage between the variables that were found significant in the study, existing policies, and new policy directions for the Latino educational pipeline. A survey of extant literature provides clear metrics for assessing this pipeline, college enrollment, retention and graduation. In addition, the research findings presented here deemed the following variables as significant across the educational trajectory for Latino males: precollege involvement, grade point average, staffing levels, curricular program, family income, the poverty levels of their high school locale, and unemployment rates. Interestingly, these have three general categorical implications that are economic, social-cultural and human capital in nature. Hence, the direction of the policy discussion could likewise focus along these general directions.

Most higher education and K-12 institutions share a common federal umbrella. Yet the degree of institutional autonomy is ultimately determined by the state in the form of system protocols (i.e. legal parameters, maintenance of infrastructure, budgetary support, etc.). States with clearly established mechanisms to respond to public educational priorities tend to perform better and are more cost effective than states where educational institutions are allowed to evolve separately (Burke, 2005). Yet there is also the danger of an environment of overregulation, which provides weak incentives for performance, similar to what occurred with No Child Left Behind. State institutions under these conditions are only accountable for legal compliance, not goal attainment. Once compliance is met, the bureaucracy is then essentially accountable for

results (Burke, 2005). Thus, any supporting of policy initiatives must inevitably involve the redirection of resources. In the case of higher education, resources are derived from tuition, state subsidies, endowments, external grants, and other revenue generating activities. In the case of K-12 institutions, this is mainly in the form of state subsidies and property taxes. Hence, a discussion of the economic implications of policy inevitably emerges.

Given this reality, it is also prudent to develop a system of analysis that considers the social-cultural implications of legislation and policies that disproportionately affect Latino males. The education of a person is a multi-dimensional process that supersedes the classroom setting and involves many factors like the biological, physiological and psychological. These factors also interact within a larger social web of overlapping layers comprised of family, peers, teachers, school mentors, and principals.It is profoundly influenced by the local levels of human capital, poverty, crime, and local politics (Arbona & Nora, 2007). The purpose at the beginning stages of the educational pipeline should be to augment access to as many cultural resources and support systems as possible, and leverage any pre-existing funds of knowledge (Gonzalez, Andrade, Civil & Moll, 2009). This is especially important since education is a very labor-intensive process; as it involves not only the labor of instructors but the cumulative labor of students as well. It is also a very collaborative process that creates value out of interpersonal relationships and social capital (Perna & Titus, 2005).

Federal education policy currently directs the types of programs that improve postsecondary access, retention and graduation. Variations of these programs exist at almost every major university and are generically known as precollege outreach programs (GEAR UP, Talent Search and Upward Bound) and undergraduate student retention programs (Student Support Services and McNair). They have track records of advancing student progress in manner that translates

into post-secondary matriculation (Loza, 2003). These programs are founded on the concept of human capital development, which brings us to our third implication for policy. In other words we must treat education as an investment in people and its consequences as a form of capital (Schultz, 1961). Certain underlying themes are present in programs that exhibit successful outcomes with marginalized students. These include high standards, personalized attention, providing role models, facilitating peer support, integrating the program within K-12 schools, providing strategically timed intervention, making long term investment in students, providing students with a bridge between schools and society, scholarship assistance, and evaluations that tie the results to intervention (Perna & Swail, 2001). All of these factors were present in the programs that showed a significance influence on the enrollment of Latino males in our study.

On the college retention side there has been a resurgence of interest in High Impact Practices (HIP) after the Association of American Colleges and Universities published George Kuh's (2008) book *High Impact Educational Practices: What they are, who has access to them and why they matter.* In academic circles, HIPs have become the official mantra when describing retention initiatives and student integration into campus life. Accordingly, these practices have a particularly pronounced effect on marginalized students like Latinos and those with weaker academic profiles.

The two federal programs mentioned previously, Student Support Services and McNair, have a long history of serving marginalized students in ways that would be considered high impact practices. Student Support Services has been around since 1965 and has a demonstrated track record of retaining and graduating first generation, low income college students. Their services include intrusive advising, the establishment of an on campus learning community, information about scholarship and financial literacy, as well as mentoring components (Gullant

& Jan, 2003). Again, these are all elements that were directly or indirectly reflected in the research findings, which highlighted the importance of not just economic capital but human capital on retention and graduation in the form of FTE staffing.

While the benefit of support programs for all students is clearly established in the literature, the impact these practices have on marginalized students, like Latino males, is magnified (Loza, 2003). Latino males are more likely to be faced with economic barriers not traditionally encountered by mainstream students during their post-secondary trajectory. These barriers range from struggling to finance their education, to being subjected to very strong pressures to help support family members, and, in some circumstances, raise their own children (Vasquez, 2015). Aside from the direct academic and financial support provided by students support programs, evidence suggests that non-academic factors are equally significant to student's retention and persistence. It has been noted, "non-cognitive dimensions such as positive self-concept and orientation toward long-term goals are as important, or more important than the traditional academic dimensions, especially for disadvantaged students," (Chaney, Muraskin, Cahalan, & Goodwin, 1998, p.198). This is further elucidated by the fact that in some instances the graduation rates for Student Support Serves participants actually superseded their mainstream peers (Thomas, Farrow & Martinez, 1998).

Additionally, the McNair program began in 1989 and is focused on promoting undergraduate research (social and human capital formation) by connecting students to faculty mentors for the purpose for conducting research. This program's ultimate focus is for students to complete doctoral studies. According to the U.S. Department of Education, the typical profile of a McNair student is a junior or senior in college. While normally touted as a graduate school preparation program, McNair encompasses many of the elements that positively impact retention

at the undergraduate level. Although undergraduate research is common in the natural sciences, the McNair Program promotes rigorous undergraduate research across all disciplines by pairing students with faculty mentors in their major. This process, offers numerous benefits to students, in areas of interpersonal competence and academic development (Kuh, 2008).

While the McNair program could be viewed as just a research program, the undertaking of a research project within the faculty/student mentoring paradigm propels students through many facets of HIPs. For instance, the cohort is a de facto learning community that promotes common intellectual experiences. The research itself is a collaborative process that dramatically increases staff to student contact hours, thus, human capital development. Lastly, the investment of time in the program reinforces a student's connection to campus and tethers the individuals to academic success.

Although outreach and college retention programs offer promise in terms of serving Latino males, there are a number of policy challenges associated with them. To begin, these programs are a solution that costs money in an environment with ever increasing fiscal scarcity. The average cost per student for Upward Bound is $4,170, for Student Support Services it is $1,390 and, lastly McNair costs $8,127 per student (Department of Education, 2013). In addition, federal appropriations are drastically diminishing at the same time when the demographics of students who need these services are growing significantly. In 2014, TRIO programs experienced a historic reduction in funding under a democratic and pro education President (Committee for Education Funding, 2013). This is symptomatic of a vicious cycle where more universities are chasing fewer federal dollars. In addition, state funded counterparts like those at Midwestern University are heavily reliant on state appropriations and direct institutional funding. Both of these sources are forecasted to continue to receive ongoing cuts.

For instance, the state support for the university system has gone from 33% of the state's general-purpose revenue (GPR) in 2000 to roughly 8% of GPR today (Clark, 2007). In addition, direct university support for these programs will be further constrained by the legislated tuition freeze. The current political climate shows no prospective changes to this trend (Pope, 2015). Coupled with external demands for accountability, the stewards of these programs can find themselves in predicaments where there is an institutional commitment to indispensable services that can quickly translate into structural deficits. This would have the effect of reframing the existing financial paradigm into one of diminishing economic returns.

A number of legal predicaments also create hurdles to serving a segment of Latino students. For instance, federal appropriations are restricted funds therefore, they can only be employed to conduct certain services earmarked by the federal government. Some of the most effective precollege programming blends the roles between outreach and recruitment for admissions, yet, this model is against federal policy. Similarly, federal policies evolved with the changing political winds; thus, state and federal policies that were once congruent can find themselves incongruent overnight. Another challenge involves federally funded precollege outreach and college retention programs that find themselves at the intersection of two legal precedents, *Plyler v. Doe and the Higher Education Act of 1965 (HEA)* and further complicated with another policy, *Deferred Action for Childhood Arrivals (DACA)*. One case mandates compulsory education regardless of legal status and the other mandates no federal monies be spent on non-citizens, the third policy allows undocumented students to legally work on campus but they remain barred from federal financial aid.

Federal precollege outreach programs and undergraduate retention programs have decades of data that support success (Chaney & Muraskin, Cahalan & Goodwin, 1998). While

effective in their prescribed mission, these initiatives are not low-cost solutions. They are an added layer of cost to already exorbitant K-16 expenditures, which are further complicated by seemly random policy incongruences. To complicate matters further, the entire federal funding base of TRIO Programs is entirely discretionary and subject to political whims. In addition, any state support is being constricted from year to year due to shrinking state appropriations and tuition freezes. Despite these challenges, these programs and policies that support them, continue to provide the best hope for Latino males from marginalized communities striving to access post-secondary institutions.

Recommendations for Practice and Further Study

This chapter provides a synthesis of the research data findings, its connection to previous research, implications for theory, and recommendations for policy. The areas discussed at greater length in previous chapters are synthesized to consider future research discussions and recommendations for practice. Thus, I begin with a view that educational opportunity and public education have been seen historically as vehicles to improve social equity (Halverson & Schapiro, 2012). As such, we must equally be cognizant of the fact that the school system, intended to foster opportunity, is still not meeting the needs of all students. Furthermore, once this assessment of academic preparation and the educational pipeline in a U.S. context is examined in terms of race and gender, Latino males fare worse among all ethnic minorities (Cerna, Perez & Saenz, 2009). This pattern of educational failure for Latino males is interlaced with economic, social and cultural consideration that lends itself to an analysis of social reproduction (Bourdieu & Passeron, 1977; Stanton-Salazar, 1997,Yosso, 2005). Variations of how social, economic, and cultural capital are relevant to the cycle of social reproduction differ

in the context of agency and the influence of culture within the components of Bourdieu's assessment of the social space (i.e. habitus, species of capital, fields of power and doxa). Furthermore, the application of a statistical model to define and track social space across time (Perna, 2000) enabled a more poignant discussion about race, gender and educational opportunities.

Although the data collected was longitudinal in nature, it was regional and unique to the Midwest, thus, subject to the challenges that accompany the social integration of the new Latino Diaspora (Hamann, Wortham, and Murrillo, 2002). Whereas other geographic areas of the country have a longer history of Latinos woven into the social tapestry, new diaspora Latinos may experience unique friction in accessing the benefits of relevant social institutions like public schools (Hamann, Wortham, and Murrillo, 2002). This social phenomenon provides an opportunity for another direction of examination not conducted in this research.

This study explored three basic questions related to educational success, the influence of precollege programs on college going rates, the extent to which they effect retention, and the extent to which precollege programs translate into the post-secondary degree completion for Latino male youth. It was across the three research questions that the boundaries between K-12 and postsecondary education overlap. It is my contention that ultimately state and federal policy makers must bridge the chasm between these two domains in a seamless fashion to better facilitate the academic success of Latino males in the postsecondary trajectory. In this respect, precollege programs serve as a viable solution to this gap. Currently, TRIO programs are already working within this policy space between K-12 and higher education with a track record of promising results (Loza, 2003; Swail, Cabrera, Lee & Williams, 2005).

However, these programs have been in existence since 1965 and could stand for an upgrade to programmatic features in innovative ways to better facilitate the success of Latino males. For instance, the increasing cost of higher education becomes especially burdensome for low-income Latino males. Whereas K-12 is a public cost burden, higher education is a heavy individual cost burden. Merging precollege with dual enrollment options that offer college courses over the summer could be a feasible way to jumpstart college readiness and reduced the cost of a four-year degree (Kruger, 2006). Slight variations of this solution are already offered by Upward Bound, which already provides a credit bearing bridge component for graduating seniors (Strayhorn, 2011). The strategy would merely entail a change whereby programs would offer college credit earning opportunities to lower grade levels in the precollege programs. This also provide college admissions officers a trial run at admission for Latinos without fear of the negative repercussion of diminishing retention rates.

Similarly, the closer integration can also work to provide high school credit for precollege work in order to accelerate the time to high school graduation. Current opportunities available for online homeschooling provide ample opportunities and the mechanism to more closely align precollege academic program with K-12 curriculum in a fashion that could mirror a form of supplemental instruction similar to models used to increase knowledge retention in medical schools (Blanc, DeBuhr & Martin, 1993).

For Latino males, the stress of family economic hardship is an especially salient feature in the retention and graduation phase of the college going trajectory, which appear correlated to unemployment rates in this research. National policy can be formulated to help minimize the opportunity cost of staying in college for Latino males. While Latinos would benefit from general antipoverty initiatives, greater strides could be made in a more tailored approach that is

responsive and leverages current employment trends. Latinos have the highest labor participation rate of all men (Fussell, 2009) however, they are overly concentrated in sectors that offer little upward social mobility. One could leverage the high rates of employment into opportunities by creating hybrid internships that blend academics with career related entry-level professional work. Again, the programmatic infrastructure for this idea is already in place in the federally funded McNair program for years. It offers paid summer research internships to foster the development of future doctoral students (Grimmett, Bliss, Davis & Ray, 1998). This model can easily be modified by collaborative partnerships with corporations that can offset some of their employment costs while training potential future employees, Latino male college students, a 21st century upgrade to the workforce development model (Jacob & Dougherty, 2006).

Yet for these recommendations to bear full fruit one must steadfastly remain focused on the two variables, which were significant across all major educational milestones during my study. These two variables were high school GPA and FTE staffing. While the connection of GPA to academic success is self-evident and has been cited across many studies, high school GPA as a predictive analytic is what merits additional attention. The role of first semester college GPA has been shown in recent studies to be a significant predictor of graduation rates for underrepresented minorities (Gershenfeld, Hood & Zahn, 2016). Similarly, correlations between labor market earnings as young adults and high school GPA have also been documented (French, Homer, Popovici & Robins, 2015). Thus, the finding that high school GPA is also a significant predictor of post-secondary graduation is a contribution that fits naturally within this chain of logic, validating previous theories.

The significance of high school GPA on the college enrollment, retention and graduation of Latino males should be seen as multidimensional. While the traditional understanding of GPA

is a symbolic of human capital or academic skills sets, the introduction of time and space in the study merits a discussion beyond GPA as a simple assessment of academic skills sets. An ecological perspective would compel a discussion surrounding the interactions between the characteristics of the person and interactions with the environment (Dennis, Phinney, and Chuateco, 2005). Furthermore, a 2011 longitudinal survey study of Latino persistence in higher education had findings related to high school GPA that concurred with the findings of this research project. However, the survey data also found high school GPA to be reflective of self-efficacy, motivation and intent to persist through graduation. It was a stronger predictor than standardized test scores (Edgar, Arredondo, Kurpius, and Rund, 2011).

It is however, the significance of FTE staffing that is fertile ground for a plethora of questions related to practice. This encompasses everything from inquiries into the negative effects of high student to counselor ratios (Gagnon & Mattingly, 2016) and class size (Schanzenbach, 2014) to the role of mentoring in promoting self-efficacy (Baier, Markman, & Pernice-Duca, 2016). A common thread that ties both and could be salient to precollege staffing involves the broad notion of instructional and programmatic quality. While the studies on precollege staffing levels are almost non-existent, studies on the effect of staff to student ratios (SSRs) in higher education explores the influence of these ratios on student learning outcomes, well-being and the organization's reputation (McDonald, 2013). Levels of staffing were found to have an influence on levels of student engagement and learning. A complex relationship between educators and student learning was also found through assessments of staff development impact on student learning. This relationship was also indirectly influenced by administrative staff who set expectations and policies within which learning outcomes occurred (Guskey & Sparks, 1996).

Likewise, a series of questions can be pursued about mentoring and the mobilization of social capital for postsecondary access (Ashtiani & Feliciano, 2015) with a particular emphasis on the cultural nuances of mentoring Latino males (Saenz, Ponjuan, Segovia & Viramontes, 2015). Regardless of the direction taken, the overarching significance of the variable FTE staffing to practice is that a significant investment in human capital is needed to develop human capital.

Overall Conclusion

The aging demographics of our country and the increasing need for higher levels of education to maintain our competitive advantage pose a plethora of serious challenges to our nation (Friedman, 2005). What is at stake is the quality of life that the middle and upper class has enjoyed for the past 50 years (Ball, Dworkin, & Vryonides, 2010). Current economic data continues to mount regarding declining prospects for the middle class (Fry & Rohal, 2015). Whether or not our nation can transcend these challenges will depend on our reconciliation with a past that was indifferent to the educational plight of the most marginalized segments of society (Huber, Huidor, Malagon, Sanchez, & Solorzano, 2006). An increasing importance will have to be placed on the Latino population due to the stark reality of an irreversible demographic trend and its direct link to economic viability (U.S. Census Bureau, 2015).

This research study provided an ideal location from which to conduct an investigation into the effects of precollege programming on Latino males. By using Bourdieu's understanding of capital as the theoretical framework from which an econometric statistical model is nested, we began an inquiry into precollege participation and minority youth. These questions were tailored to inform the researcher on the particular impact of precollege interventions on Latino males.

This quantitative analysis was a byproduct of using logistical regression on longitudinal data to uncover patterns associated with precollege participation (Perna, 2000). The unique cultural nuance associated with masculinity within Latino ethnic enclaves and the struggle to balance between family obligations and individual pursuits also provide a plethora of research directions to consider in the future (Saenz & Ponjuan, 2011). For the middleclass, educational institutions reflect the cultural values generated in their family institutions. Hence, for the middle class, their social space itself serves as a freeway that enables youth to access resources and opportunities (Stanton-Salazar, 1997). Similarly, educational settings have been shown to provide qualitatively different experiences for White youth versus Latino males. Latino males are more likely than Whites to be seen as a threat and policed in educational settings (Saenz, Ponjuan & Figueroa, 2015).

The convergence of these research findings could lead to a future direction for policy in this country. Many of the educational problems in society have historically been overrepresented in Latino communities due to policy failures (Gandara & Contreras, 2009). They will become more mainstream problems, as today's minority students become tomorrow's majority student population (Conrad & Gasman, 2015). The educational trajectory of Latino students has made some strides; however, to insure greater momentum one must be cognizant of the duality that exists in the greater social space. While we know that the existing educational pipeline is inadequately meeting the needs of Latino males, we need to explore areas where we can shape policy to rectify this trend.

Despite the shortcoming of a traditional educational pipeline, there exists one method of intervention that has demonstrated success with Latino males. These findings are similar to what has emerged in studies about the influence of precollege programs on the college going rates of

other minorities. In regards to the research I conducted, some of the variables were found to be significant were very predictable (i.e. precollege participation and GPA) or the variables were commonly accepted socio-economic factors like: family income, high school locale and unemployment. One particular variable however, unearthed a connection not previously encountered in other studies. This was number of fulltime staff employed in precollege programs and its positive influence on the academic trajectory of Latino males; even years after contact had theoretically ceased.

Hence, transforming and improving educational opportunity for Latino male students begins first by changing our paradigms related to students of color, and Latino males in particular. This means ceasing the perpetuation of deficit view of students despite the unique barriers and challenges they may face. Recognizing that an investment in high quality human capital (e.g. professional employee versus seasonal staff) is required for the production of high quality human capital (academically successful students). Precollege programs provide a natural link between K-12 schools and universities that can be leveraged and further developed. One area that would be natural and organic to build on would be the pursuance of dual enrollment curriculum. This would help expose students to more rigorous course work and help them to acclimate to a university environment (Conrad & Gasman, 2015). This would also begin to reduce the time to degree completion, which for Latino students has historically taken longer to complete a baccalaureate. Regardless of which policy initiatives are pursued, one thing is clear: our nation cannot afford to continue its reactionary approach to the education of Latino males. This would be a formula that would be detrimental to the economic pillars of our society in a fashion that has been unprecedented in our history.

Yet most importantly, the issue surrounding the education of Latino males is a vexing moral question with profound social justice implications that are intergenerational in nature. Latino males, due to their youth and high labor participation rates, will overwhelmingly shoulder the burden of supporting an older and aging White population (Hayes-Bautista, Schink & Chapa, 1992). Without sufficient human capital investment into this rapidly growing demographic, we are creating a society of neo-serfdom. It will be a world where the most youthful and energetic segment of our society is tied to long hours at low-wage jobs, with high tax rates, for barely a subsistence level quality of life and no prospects for upward mobility. This will constitute oppressive caste system that would perpetuate and massive transfer of wealth along racial lines, a scenario that is socially and politically unsustainable.

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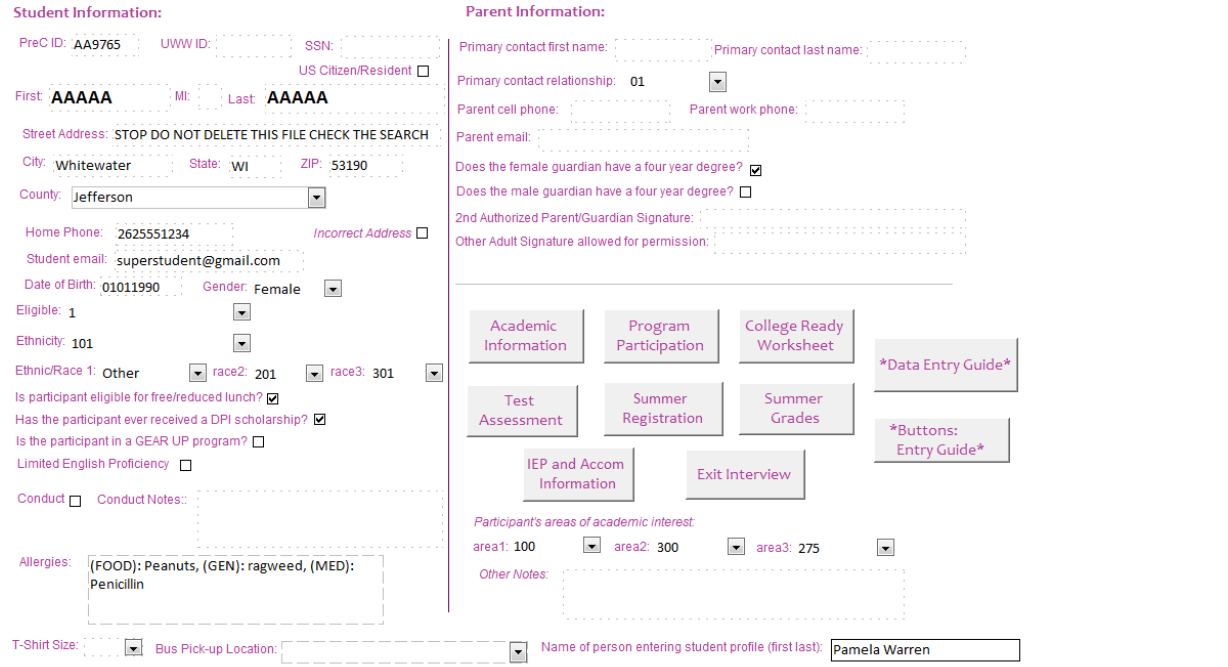
Appendix A

The Decision to Enroll in a Four-Year College or University	
Variable	Definition
Dependent Variable	
College enrollment	Enroll in a four-year college or university (1 = yes, 0 = no) in October 1992, the fall after graduating from high school.
Direct Costs	
Tuition	Average in-state tuition at public colleges and universities in student's home state. Range: $830 to $5,314
Financial aid	Receive grants (1 = yes) and receive loans (1 = yes). Estimated based on each student's race, sex, tuition and fees, family in-come, test score, high-school quality, and high-school control.
Labor Market Opportunities	
State unemployment rate	Continuous variable calculated from the Current Population Survey, March 1992 Supplement. Range: 1.2% to 11%.
Future Benefits	
Expected future income	Difference in average adjusted gross income for individuals age 25 to 54 of same sex, race, and region with a bachelor's degree and a high-school diploma. Range: -$424 to $23,881
Financial Resources	
Family income	15 category variable representing total family income from all sources in 1991; 0 = none, 15 = more than $200,000. Missing values are imputed for 17% of the cases based on the average value for students of the same race and socioeconomic status quartile.
Academic Ability	
Test score	Composite score on the reading and mathematics tests administered as part of the NELS data collection. Range: 28 to 71
Curricular program	Dichotomous variable indicating whether student participated in an academic curricular program; 1 = yes, 0 = no
Social and Cultural Capital	
High-school quality	Percentage of 1990-91 high-school graduates enrolled in 4-year college; 1 = 0%, 6 = 100%. Missing values imputed for 21% of the cases based

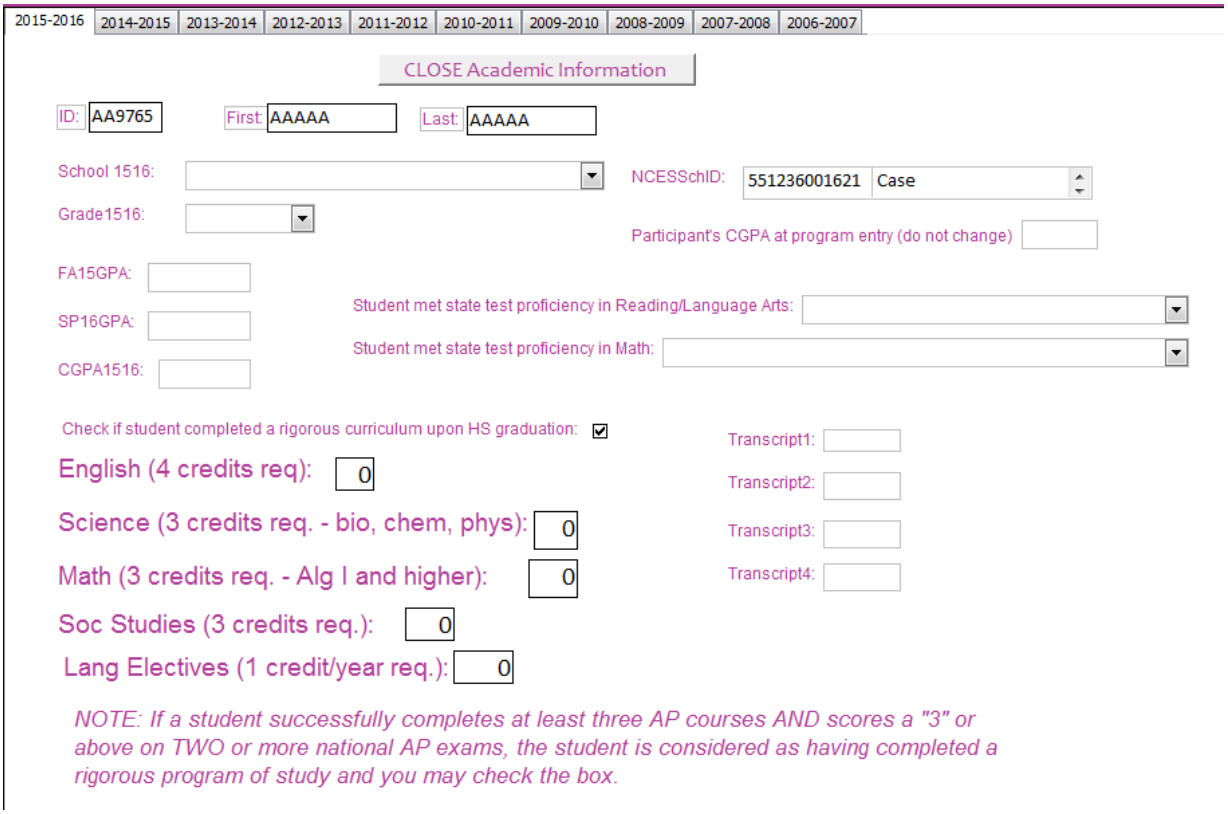
	on the average value for students of the same race and socioeconomic status quartile.
High-school desegregation	African Americans and Hispanics comprise 10% to 29% of all students (1 = yes), 30% to 59% of all students (1 = yes), or more than 60% of students (1 = yes). Less than 10% is the reference category. Missing data are imputed for 13% of the cases based on the average value for students of the same race and socioeconomic status quartile.
High-school region	South (1 = yes), Northeast (1 = yes), Midwest (1 = yes). West is the reference category
High-school location	Urban (1 = yes, 0 = no) and Rural (1 = yes, 0 = no). Suburban is the reference category.
High-school control	Control of high school: 1 = public, 0 = private
Educational expectations	4 category variable: 1 = No more than high school, 2 - Some college, 3 = Finish college, 4 = Advanced degree.
Parental encouragement	Mother wants student to earn bachelor's degree (1 = yes); mother wants student to earn advanced degree (1 = yes). Lower level of educational attainment is the reference category.
Parental involvement in the student's education	Factorially confirmed scale comprised of 6 variables shown in Table 2. Missing data imputed for 13% of the cases based on the average score for students of the same race and socioeconomic status quartile.
Parents' education	5 category variable representing the highest level of education attained by either parent: 1 = less than high school, 5 = advanced degree. Missing values imputed for 10% of cases based on the average value for students of same race and socioeconomic status quartile.
Peer encouragement for Education	High (1 = yes) and low (1 = yes) encouragement from peers. Moderate encouragement is the reference group. Scale represents the sum of 4 NELS variables measuring importance among friends of: getting good grades; continuing education past high school; studying; and finishing high school.
Encouragement from others. Help from school personnel college admissions activities	Teacher and counselor want student to go to college: 1 = yes, 0 = no Student received help at high school with college application, financial aid application, and college essay (1 = yes) and student activities received no help with application, financial aid, or essay (1 = yes). Receiving help with one or two of these items is the reference category.
Use of tools to prepare for college admissions tests	Whether the student used one (1 = yes) or more than one (1 = yes) of the following test preparation tools: classes offered by the school, private classes, books, videos, computer programs, and tutors. Using no test preparation tools is the reference category.

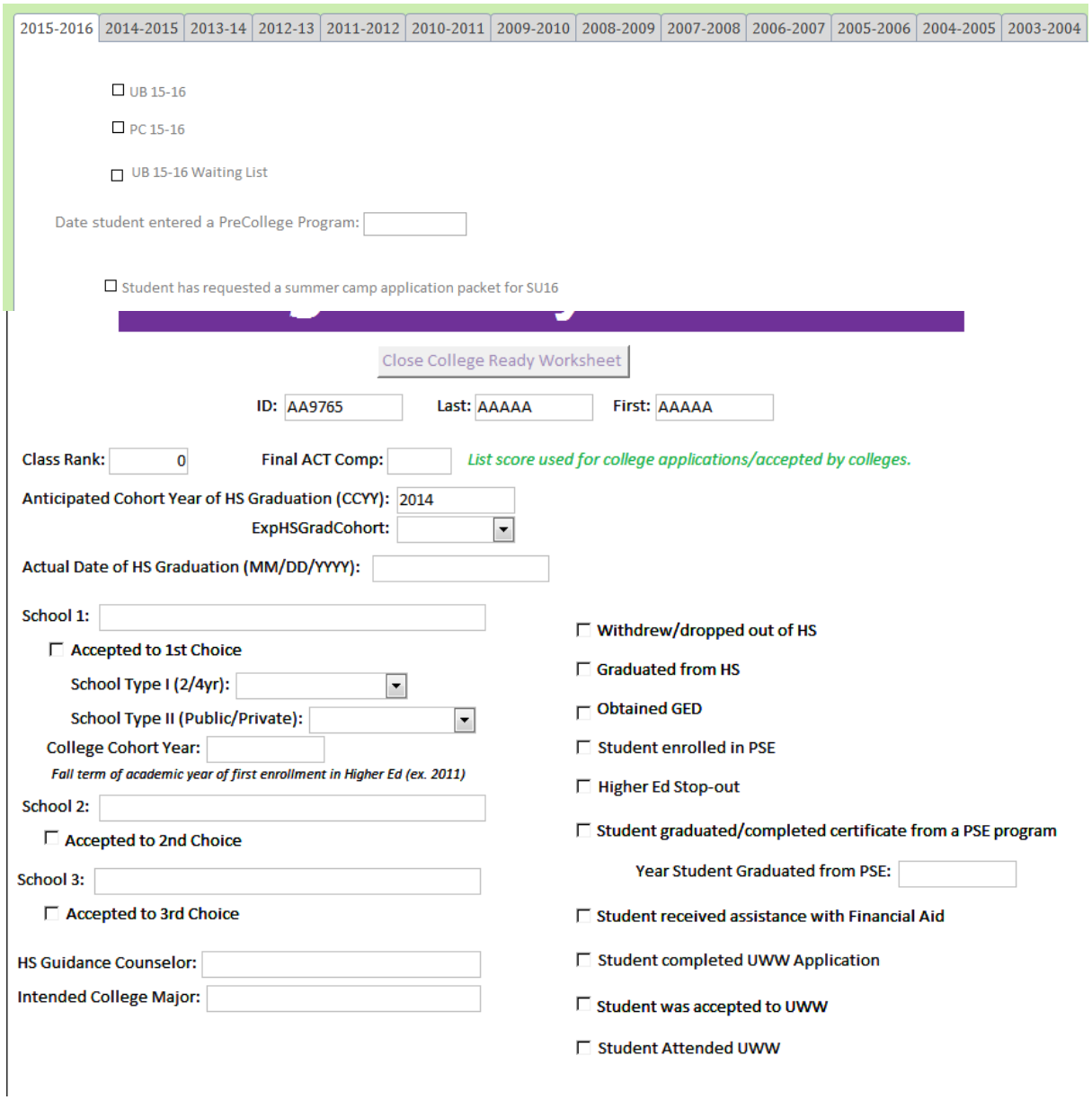
Appendix B



ADVISING NOTES:

ID	Contact	Contact Typ	Date	Time	Advising Location	Notes	Topics	Advisor
AA9765					After School Study/Tut			
* AA9765								




2015-2016
2014-2015
2013-14
2012-13
2011-2012
2010-2011
2009-2010
2008-2009
2007-2008
2006-2007
2005-2006
2004-2005
2003-2004
UB 15-16
PC 15-16
UB 15-16 Waiting List
Date student entered a PreCollege Program:
Student has requested a summer camp application packet for SU16
Close College Ready Worksheet
ID: AA9765
Last: AAAAA
First: AAAAA
Class Rank: 0
Final ACT Comp:
List score used for college applications/accepted by colleges.
Anticipated Cohort Year of HS Graduation (CCYY): 2014
ExpHSGradCohort:
Actual Date of HS Graduation (MM/DD/YYYY):
School 1:
Accepted to 1st Choice
School Type I (2/4yr):
School Type II (Public/Private):
College Cohort Year:
Fall term of academic year of first enrollment in Higher Ed (ex. 2011)
School 2:
Accepted to 2nd Choice
School 3:
Accepted to 3rd Choice
HS Guidance Counselor:
Intended College Major:
Withdrew/dropped out of HS
Graduated from HS
Obtained GED
Student enrolled in PSE
Higher Ed Stop-out
Student graduated/completed certificate from a PSE program
Year Student Graduated from PSE:
Student received assistance with Financial Aid
Student completed UWW Application
Student was accepted to UWW
Student Attended UWW

ACT (Record best attempt on top)

ACTMath1:	ACTEnglish1:	ACTReading1:	ACTScience1	ACTComp1:	Optional ACTWriting1:
	0	0	0		0

☐ Does this test count as an offical score for college applications?

ACTMath2:	ACTEnglish2:	ACTReading2:	ACTScience2:	ACTComp2:	Optional ACTWriting2:

☐ Does this test count as an offical score for college applications?

ACTMath3:	ACTEnglish3:	ACTReading3:	ACTScience3:	ACTComp3:	Optional ACTWriting3:

☐ Does this test count as an offical score for college applications?

State Proficiency

Reading and Language Arts	Mathematics

Student ID# AA9765 Last AAAAA First AAAAA

☐ Conduct Conduct Notes:

2015 | 2014 | 2013 | 2012 | 2011 | 2010

☐ UB Summer 15 UB SU15 Group:

Please check this for all UB students attending the 2015 UB Summer Enrichment Program

☐ Attended SU15 Camps

Please check this for all students attending any 2015 Summer Academic Camp (Non UB)

Reading for Success

- ☐ R4S Reg15
- ☐ R4S Att15
- ☐ R4S DPI15

R4S 15Group:

ACT Prep

- ☐ ACT Reg15
- ☐ ACT Att15
- ☐ ACT DPI15

CAP I

- ☐ CAP I Reg15
- ☐ CAP I Att15
- ☐ CAP I DPI15

CAP II

- ☐ CAP II Reg15
- ☐ CAP II Att15
- ☐ CAP II DPI15

CAP III

- ☐ CAP III Reg15
- ☐ CAP III Att15
- ☐ CAP III DPI15

ID First: Last:

Exit GPA: Month: Year:

Did student complete the paper form?

Why are you leaving the program?

If you are going to college, how do you plan to pay for your education? (Please select all that apply)

Scholarships Loans Grants Work Parents Scholarships Received::

Do you plan on attending Grad/Prof school after college/tech?

If you do not plan ongoing to college or technical school right now, why not?

- Starting a Family/Getting Married
- Not Interested in Higher Ed at this time
- Military
- Financial Reasons

Other::

What are your career plans?

What were your most positive experiences with PreCollege Prog?

Saturday Colleges
UB Summer Component

How has participating in PreCollege Programs helped you?

What are your recommendations for PreCollege Programs?