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High School Curriculum Tracks as Determinants of Post-Secondary Outcomes: A Study of Track Mobility and Its Effects

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HIGH SCHOOL CURRICULUM TRACKS AS DETERMINANTS OF POST-SECONDARY OUTCOMES: A STUDY OF TRACK MOBILITY AND ITS EFFECTS

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This dissertation is dedicated to my parents, Renie and Bill Morrison, who taught me a love of learning at an early age and supported my continuing education in so many ways, and to my beautiful wife, Ellen, whose love, encouragement, and support made this possible.

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ABSTRACT

Despite scores of studies that have shown that tracking and ability grouping perpetuate the academic achievement gap that exists in the United States, the practice continues. The reason for this persistence is a confluence of educational, social, and political factors. As tracking will continue as practice for the foreseeable future, research must help to identify the best and worst of tracking practices so that its negative effects are minimized and positive effects maximized. Oakes (2005) has identified five common elements of tracking policies and practices: extent, pervasiveness, flexibility, mobility, and locus of control. Of these elements, it is my contention that mobility is most important. A tracking system that does not allow for movement among tracks is not only morally unjust, but also unfit educational practice in a democratic country based on a capitalist, free-market economic system that aims to reward individual effort and accomplishment. This study analyzes the effect that mobility has on the achievement gap and post-secondary outcomes by examining a group of high school graduates and how their curricular mobility in high school affected their post-secondary plans. Results showed that there is no relationship between overall track mobility in high school and post-secondary outcome. There was, however, a significant association between negative mobility in English and post-secondary outcomes and a moderate association between negative mobility in math and those outcomes.

CHAPTER I

INTRODUCTION

The educational goals for America as a democracy and America as a capitalist economy are not congruous. On one hand, the educational system is meant to prepare students for active participation as citizens of a democracy while giving them a fair chance to compete for the "good life" in our society and all that good life entails (Gutmann, 1987). This serves the democratic goals of our sociopolitical system. On the other hand, the system requires schools to sort and select students for different occupational roles according to their ability (Gamoran, 2009). This serves the needs of our capitalist economic system. This is the paradox of American Education. How can we provide an equal chance at the good life for all students if we are required to constantly sort and select them for various post-educational life paths based on their native or perceived abilities?

Clarifying the goals of a system is integral to the operation of the structures within and the health of the system as a whole. General goals become specific goals and eventually the functions by which the system operates, therefore it is vital to have clearly established goals for a system and to ensure they work in concert with one another (Green, 1980). In the case of American education, this has proven to be a difficult task due to the aforementioned conflicting nature of those goals. Jencks (1988) has addressed this problem through an understanding of the outcomes of a capitalist system. Capitalism

as a system produces an unequal society, there will necessarily be "haves" and "have-nots" as the free market distributes societal resources in a non-arbitrary way. Embracingthis as an unavoidable consequence of capitalism is important. When we fall for the myth of the meritocracy, the romanticized *American Dream*, we lose sight of the fact that the system itself is designed to distribute resources unequally. Once we acknowledge and embrace the fact that some will have resources and some will not, we can then go about setting up systems that give all an equal chance at those resources. We cannot guarantee equal access to all societal resources, but we can guarantee equal opportunity to access those resources through education. This is how democracy can work in tandem with capitalism. This is also the key to how education should function in this system. "Having committed ourselves to an economic system that produces a high level of inequality among our adults, we acquire an obligation to neutralize the effects of such inequality on children" (Jencks, 1988, p. 523).

The problem lies with the fact that this is not how education in the United States services the system. There can be progress when equal educational opportunity produces unequal outcomes, but not when unequal opportunity produces unequal outcomes. In a country where quality of life is so directly tied to education it is imperative that all students have an equal chance at that education. The achievement gap between races, ethnicities, and classes tells us that this is not the case. After approximately two decades of improvement in the Black-White achievement gap, which saw Black achievement improve incrementally while White achievement remained static, the process has reversed. Hispanics have not fared much better against their White counterparts, seeing less of a gap overall but also seeing that gap widen or remain static after years of

improvement (Camara & Schmidt, 1999; Phillips et al., 1998). These trends have in turn precipitated a renewed focus on the causes of the achievement gap and the cultural, economic, and educational factors that may be working in concert to exasperate it.

How do schools play a role in the formation of this gap? Embedded school structures, formal and informal, conspire to keep low achievers low while advancing opportunities for high achievers. These structures reproduce patterns of success and failure while maintaining a façade of neutrality and reinforcing unequal outcomes (Noguera & Wang, 2006). Segregation between schools has become segregation within schools. "Students of various races may attend the same schools, but they receive a very different education within them" (Noguera & Wang, p. 11). This occurs as a result of the use of capital: social, cultural, and economic (Bourdieu, 1986). Students and parents of means use these different types of capital discriminately within the bureaucratic structure of the school to affect school experiences and ultimately outcomes. As those with economic capital are usually those who also possess social and cultural capital, the school itself is structured to benefit those that need it the least. In many ways, the school is simply reproducing the economic, social, and cultural characteristics of the community it serves. "The entire U.S. school system, from pre-K up, is structured from the very start to enable the rich to out compete the poor, which is to say, the race is fixed" (Michaels, 2006, p. 10-11).

One such common practice of schools that results in this segregation of students and outcomes is ability grouping, or tracking. Oakes (2005) defines tracking as the process "whereby students are divided into categories" (p. 3) to be assigned to various "tracks", or sequences of courses in a particular school or subject, within the curriculum.

These tracks may be college preparatory, academic or vocational in nature, all inclusive of a student's curriculum or subject specific. Studies have shown that track assignment can have a great effect on student academic outcomes and future possibilities (Oakes et al., 1992; Lucas & Berends, 2002). A variety of school structures and student characteristics developed by those structures ensure that any initial academic and social differences among students when entering a school system will widen, most notably in the area of academic achievement (Oakes, 2005; Bouffard & Couture, 2003; Byrne, 1988; Lucas & Berneds, 2002; Lee & Byrk, 1988). Inequity in student outcomes has persisted despite fundamental changes to the practice of tracking over the years as these changes have simply recreated the inequalities of prior systems (Gamoran, 2009).

So why does it continue? The reason for this persistence is a confluence of educational, social, and political factors. Some of the same studies that have shown tracking's ineffectiveness have also shown that high achievers can be hurt by heterogeneous ability grouping (Gamoran, 2009). As a result, there is political and social pressure on educators and administrators to maintain the practice until a better one can be found that is beneficial to all students. As tracking will continue as practice for the foreseeable future, research must help to identify the tracking practices that best maximize opportunities for low achievers while maintaining quality opportunities for high achievers. Oakes (2005) has identified five common elements of tracking policies and practices: extent, pervasiveness, flexibility, mobility, and locus of control. Of these elements, mobility is the most important for an educational system serving a capitalist, democratic society. If resources are to be distributed unevenly, as they often are in schools with tracked curriculum, that uneven distribution can only be justified if all

students have a chance to access those resources. It is therefore vital that there is a great amount of mobility between tracks, with structures in place to not only make that mobility possible but also support students that take advantage of those opportunities.

Johnson (2008) and Hallam & Ireson (2007) both recognize how vital mobility is to the effectiveness of any tracking system. Johnson discovered that having a strong tradition of mobility and movement among tracks helps to placate many of the obstacles to effective tracking practices. Therefore, studies that examine Oakes' element of mobility may identify characteristics of some of the other common elements of tracking that contribute positively to mobility and diagonal movement among and within tracks. The purpose of this study will be too examine how mobility operates in four distinct high schools and what outcomes mobility, or lack thereof, produces. The four high schools were chosen very specifically for their combination of per-pupil expenditures, teacher experience and salaries, average class sizes and student demographics. They provide a look at schools with a rare combination of high per-pupil expenditures and a high percentage of underrepresented and low-income students. This study should contribute to the growing literature on tracking and effective tracking practices and most importantly provide a glimpse at structural factors that might affect mobility in schools, something that has yet to be examined. This information can be used by teachers, administrators, curriculum specialists, and other practitioners in the formation of school wide and subject specific curriculum, scheduling, and sequencing; thereby increasing mobility, narrowing the achievement gap, and providing better opportunities for all. Educators are often quick to point out the factors affecting student achievement that are beyond their control, things such as parental involvement, perceived native abilities, class size, available

resources, etc; but rarely take a look at their own practice to see how it may have an effect on outcomes. This study will show if and how school operational and curricular structures affect those outcomes.

CHAPTER II

LITERATURE REVIEW

Achievement Gap

The inequality of educational achievement across racial and ethnic groups has long troubled those who believe that success should be based on merit and that the educational system should be America's great equalizer. The problem has become even more troubling as income and class status have become increasingly determined by educational success. The gap in achievement has shifted steadily from being an indicator of educational inequality to being a direct cause of socioeconomic inequality (Harris & Herrington, 2006, p. 209-210).

The term achievement gap "refers to the differences in scores on state or national achievement tests between various student demographics" (Anderson, Medrich, & Fowler, 2007, p. 547). The key to this singular definition is the plurality of gaps that it implies. By defining the gap as gaps "between various student demographics", Anderson et al. point out one of the central difficulties in dealing with the achievement gap, that there is no single, identifiable gap. As a result, treating all gaps as if they were the same "may mean current policies miss the mark in raising achievement level between groups" (Carpenter, Ramirez, & Severn, 2006, p.113). Consequently, the way achievement gaps are defined, studied, and measured has profound implications for policy makers at the school, state, and national levels. Treating all racial and ethnic minorities, or even

singular minority groups, the same may have unforeseen consequences (Carpenter et al., 2006). This is important to note when one considers what has happened with the achievement gap over the past twenty years or so.

The diminishing achievement gap between Black and White students is no more. After nearly two decades of incremental improvement the achievement gap between Whites and African-Americans has stretched to at least 0.80 standard deviations, with some studies finding disparities as high as 1.14 standard deviations. Hispanics have fared better than their African-American counterparts, seeing less of a gap overall but also seeing that gap widen or remain static after years of improvement. For Hispanics, the gap is over 0.40 standard deviations and has been found to be as much as 1.0 (Camara & Schmidt, 1999; Phillips et al., 1998). This coincides with similar trends in college entrance examinations. These trends have forced a renewed focus on the causes of the achievement gap and the cultural, economic, and educational factors that may be the cause. It has also forced researchers to clarify their definitions of the achievement gap and make some determinations as to "which gap counts" (Anderson et al., 2007, p. 547).

Scholars have proposed many reasons for the historical achievement gap as well as the growth of the gap we witnessed over the past two decades. One focus of scholars' concern of late has been the growing divide between dominant and minority cultures. By concentrating on "culture" as opposed to previous arguments of genetic inferiority, scholars are concentrating on characteristics of underperforming groups that can be changed. "Unlike biology, culture has been embraced as a less politically distasteful explanation because it is assumed that cultures are not immutable but can be changed over time" (Noguera, 2008, p. 92). It frames the achievement gap in the dialect of

choice. For example, Ogbu (1987) argues that non-voluntary minorities, groups that came to be part of America through conquest or force, consistently do poorly in schools due to the "oppositional culture" they have developed as a result of how they came to be part of American society. These groups see schooling as a tool of forced assimilation, a continuance of the earlier practices that led to their conquest. Patterson (2006) embraced this view with his theory on the role of "gangsta rap" in misdirecting and undermining the aspirations of racial minorities. Others have used this as a way to explain why some racial and ethnic minorities, such as Asians and first-generation Mexican students, perform well in school as opposed to some of their counterparts. Along these same lines, McWhorter (2000) attributed the consistently poor achievement of African-American students to a "culture of anti-intellectualism" that stems from Steele's theory of victimology, or the tendency of African-Americans to blame Whites for their ills. McWhorter contends that "victimology stems from a lethal combination of this inherited inferiority complex and the privilege of dressing down the former oppressor", a combination "that condones weakness and failure" (p. 28).

Noguera (2008) argues that theories involving the effects of different types of culture on student achievement are based on gross generalizations that maximize the role of the individual in the process and minimize the role that societal structures, such as school practices, play in the formation of the achievement gap. As with the focus on culture versus genetics, using generalizations to blame the student absolves society of blame for the unequal opportunities it provides. It is a way to pass the problem off as one of culture and choice, as if larger societal structures have little to do with the formation of that culture. Conveniently, this focus also allows policymakers, educators, and others to

maintain practices that may be a contributing factor to that culture. Other, would-be reformers wind up engaging in a kind of fatalism that stunts reform efforts, believing that there is little that can be done to combat the influence of culture.

For many researchers and theorists, culture is simply another way to explain the economic disparities among the classes (Michaels, 2006). The concept of culture "describes the material differences between people as cultural difference" (p. 161) in a way that normalizes the fact that there are severe disparities between the *haves* and *have-nots* of the system. By framing the discussion in a cultural context, the haves can be comfortable with the inequalities inherent to the system itself. "A world where some of us don't have enough money is a world where the differences between us present a problem: the need to get rid of inequality or to justify it. Celebrating the diversity of American life has become the American left's way of accepting their poverty, of accepting inequality" (p. 6-7). This is not to say that the American right is not also complicit in this deception. In fact, classism may be one of the few "isms" that the polar opposites of the political spectrum may be able to agree on. Both sides have effectively morphed the argument from economic difference to cultural difference, treating them as the same entity. At the same time, culture acts as an anesthetic for those who sit outside of the system looking in, giving them something to cling to and possess while masking the broader structural inequalities that maintain the system and keep those with "culture" in their subjugated roles.

This bridge between culture and economics has been described by Payne (2005) as a "culture of poverty". For Payne, this is the explanation for why poor children from all races and ethnicities struggle in school. The culture of poverty ties culture to

economics by asserting that a lack of resources produces a specific type of culture with characteristics that are antithetical to school performance. Considering that education is the key to class mobility in the United States, this causes a cycle of poverty in the lower classes. Ladson-Billings (2007), on the other hand, believes that culture is what people make of it; she has a hard time accepting that people make their own poverty. Instead, she agrees with Michaels in many ways, seeing poverty in a different light:

> [Poverty] is a condition produced by the economic, social, and political arrangements of a society. When we think it is acceptable for people to work and not earn a living wage, we contribute to the creation of poverty. Poverty is part of a dialectic relationship created by social values that permit huge disparities in health and well-being. Thus, the poverty that exists in one part of the world is related to the affluence in another part. Similarly, the poverty that exists on one side of town is related to the affluence and avarice on the other side (p. 320).

For Rothstein (2004), culture simply cannot be separated from economics. They are interrelated to the point that they are actually deterministic of one another; a person's socioeconomic status determines his or her culture. Rothstein believes so strongly in the influence of socioeconomic factors that he doubts school reform can do much in the way of closing the achievement gap. Though some types of economic, structural, and curricular reforms may help to diminish it, the achievement gap is "inevitable based on the social and economic factors" (p. 59) that cause it. These factors run the gamut from now taboo genetic differences, to social class differences in childrearing, to health differences between rich and poor that affect school attendance and performance, to housing patterns and student mobility. Economics clearly plays a large role in each of these factors. And though each may have a minimal effect on the gap in and of itself, when added together they create what we currently call the achievement gap.

For example, Rothstein (2004) uses a number of health related issues to describe disparities between rich and poor. The greater incidents of vision and hearing problems, asthma, exposure to lead paint, lack of adequate health care, high rates of alcohol use and smoking tied to birth weight in newborns, and lack of nutrition "add up to a cumulative disadvantage for lower-class children that can't help but depress average performance" (p. 45). His analysis of student housing patterns and mobility studies uncovered many factors that may also effect school performance, such as more consistent movement between schools for students in the lower-classes and the effect that smaller, more crowded living arrangements has on study habits. "An achievement gap between stable and mobile or poorly housed pupils is inevitable, on average" (p. 47).

This idea of average is the key to Rothstein's argument. He frames the entire argument surrounding the achievement gap as one of averages, that the average student from the lower class will perform worse than the average student from the middle class, who will perform worse than the average student from the upper class. Achievement is thus stratified by class. Nowhere is this more evident than in the 2004 study on SAT averages published by College Board, the test company that created and administers the exam. Their study found that SAT score averages correlated perfectly with income to the extent that students may as well just fill in family income on their college applications as opposed to their standardized test scores (College Board, 2004). Proponents of status quo policies will point to the anomalies, the lower-class student who "made it" despite the disadvantages they were presented with. They will time and time again return to the meritocracy myth that anyone can have that piece of the American Dream if they work

hard enough and believe, but the numbers do not lie. On average, the more wealth a family has, the stronger student academic performance will be.

The concept of wealth is key to understanding these economic disparities. Income alone fails to explain in-class differences among races, why middle-class Whites outperform middle-class Blacks. To find the true difference-maker we must dig deeper into disparities in wealth. Rothstein (2004) contends that "income is an inexact proxy for the many social class characteristics that differentiate Blacks from Whites whose current-year income is the same" (p. 47). As opposed to Michaels, he does believe that culture has a role to play in these in-class differences, albeit a small one. More important are employment and unemployment patterns, years spent in a particular class (first generation versus third generation middle-class), and the fact that many more minority families support extended family members. Perhaps most important to in-class differences is accumulation of wealth. Mishel, Bernstein & Boushey (2003) found that the net worth of the average white family is nearly ten times the net worth of the average black family. This accumulated wealth is passed down through generations, establishing housing patterns and cementing one's place in the socioeconomic structure. In his examination of how economic factors affect student academic outcomes, Conley (1999) discovered that if one controls for family wealth as opposed to yearly income, the achievement gap between blacks and whites virtually disappears. Not surprisingly, he found that the single greatest predictor of a person's future income is not their race or education, but the net worth of their parents. He too argues that variables such as racial and cultural differences among students are in actuality class differences.

So if academic achievement, or lack thereof, is so dependent on socioeconomic variables what role, if any, do schools play in the formation of the achievement gap? The answer is that schools play an enormous role in the maintenance and widening of the achievement gap. The school structures that are at the heart of an educational bureaucracy, formal and informal, work in concert to provide exceptional opportunities for high achieving students while minimizing them for the lowest achievers. These structures reproduce patterns of success and failure while maintaining a façade of neutrality and reinforcing unequal outcomes (Noguera & Wang, 2006). School policies such as tracking, teacher allocation, reliance on standardized testing, and student choice in course scheduling create separate educational systems and outcomes within a school.

Many critics of contemporary American education will also point to the enormous funding disparities between schools as a main cause of the achievement gap. As school funding in the United States is largely based on local property taxes, there can be enormous disparities within a state in per pupil expenditures. For example, the New York City Public Schools spend an average of $11,627 per pupil for a district that is 72% Black and Hispanic, while suburban Manhasset spends $22,311 for a school that is 91% White (Kozol, 2005). The schools in this study exemplify this fact, with an average per pupil expenditure of $21,204 for the four schools here as opposed to the state average of $11,537 per pupil (Illinois School Report Card, 2011).

Discrepancies such as these have been at the forefront of the school reform movement since they came to public attention in the federal government's 1983 report *A Nation at Risk*. Considering the overwhelming evidence in support of the role that economic factors play in school outcomes, it seems plausible that a change in the way

that schools are funded could have enormous implications. Michaels (2006) actually supports equal funding for all schools nationwide combined with the abolition of private schools, preventing the wealthy from simply leaving the public school system in favor of their own. However, researchers have discovered that resources only help to a point. Much more important are the school structures discussed earlier, such as course offerings and content, teacher allocation, and the effectiveness of school administration (Harris & Herington, 2006). It seems that how schools use the resources they have is more important than the amount of resources they have.

Due to the political difficulty and improbability of the redistribution of resources, educational reforms have been tried at the state, federal, and school levels in an effort to close this achievement gap in schools. At the state level, governmental bodies have attempted both government based and market based accountability systems (Harris & Herrington, 2006). Government based accountability systems have produced mixed results. Some systems that are more stringent and contain consequences for failing students and schools seem to be most effective. These include promotion-graduation exams such as the New York State Regents exam which tend to produce school responses such as content and time standards that disproportionately affect disadvantaged students in a positive way. Market based accountability systems do not seem to provide the same outcomes for disadvantaged students. Charter schools, voucher programs, intra-district transfer, and other alternatives have produced generally negative results. This has been attributed to the fact that students seem to make greater gains when their classmates have higher scores (Dowdall, 2011; Betts et al., 2003). As a result, any system that removes the best performing students from a school may actually worsen outcomes for those left

behind. Overall, "There is little evidence that more extensive use of parental choice and market competition improves the equity of outcomes" (Harris & Herrington, 2006, p. 223).

Some of the more successful state-based accountability systems have led to the epitome of all accountability systems, the federal governments No Child Left Behind Act (NCLB) of 2001. The express purpose of the NCLB is to eliminate the achievement gap between majority and minority students, advantaged and disadvantaged students. NCLB requires all schools to reach proficiency benchmarks for 100% of their students by 2013-2014 by measuring Adequate Yearly Progress (AYP) from the time of inception until that date (NCLB, 2002). AYP includes a combination of whole school and specific subgroup proficiencies, such as English language learners, students of color, and low-income students. NCLB establishes a single standard for all students and subgroups in schools, regardless of the conditions within the school at the time the law was passed. Therefore, schools that had 30% of their students at benchmark at the inception of NCLB would be compared against schools that had 85% of their students at benchmark.

This inequity brings one of the main problems with NCLB to the forefront. Since it is based on a standard model as opposed to a growth model similar to effective state accountability systems, NCLB has no mechanism for rewarding schools that are increasing proficiency levels but not meeting the yearly benchmarks that were pre-determined in an effort to guide all students to 100% proficiency by 2013-2014. As a result, schools that may be doing an excellent job in increasing student performance across the board or in specific subgroups may still be considered "failing" under NCLB. The subgroup consideration places more pressure on schools that are racially, ethnically,

and socioeconomically diverse. Schools such as these have a more difficult time meeting benchmarks simply because they have more subgroups that must meet standards. In addition, at many mixed-race and income schools there are relatively small populations of subgroups, meaning that averages may fluctuate wildly from year to year. "The imprecise nature of average scores based on a limited number of students suggests that some schools will be incorrectly identified as failing AYP while others will be incorrectly identified as passing AYP" (Sunderman, Kim, & Orfield, 2005, p. 26).

Not surprisingly, studies on the effects of NCLB have shown that schools failing to meet AYP are especially likely to fail due to one of their subgroups, most often racial minorities, students with limited English proficiency, and students with learning disabilities (Sunderman et al., 2005). "This meant that schools needing improvement were held accountable for meeting subgroup targets for students who have historically performed poorly on standardized tests (p. 34)", the way in which most states determine AYP. Also troublesome is the lack of consistency between states in standards for meeting AYP. An AYP score in one state may not meet standards in another, and benchmarks of a particular state based on a growth model may mean kudos for a school at the state level yet consequences at the federal level. Moreover, the consequences of not meeting these standards are severe. Schools deemed to be failing can be closed or reorganized, disrupting students and programs that might be effective but are simply not reaching benchmarks for the aforementioned reasons.

More remains to be seen as to how effective NCLB will be in eliminating the achievement gap, though many researchers are already asserting that the high-stakes testing and accountability systems which comprise NCLB actually increase the

achievement gap through the disruption of schools the system considers to be failing; schools that are more often than not disadvantaged, multi-racial, and low-income (Sunderman et al., 2005). Jencks discovered as far back as 1992 that focusing on math and reading tests is disproportionately harmful to low-income students since non-cognitive traits are the most important indicators of academic success and students from this socioeconomic stratum rely on schools for acquisition of these skills. Similarly, Lee (2002) questions the standard mechanisms that researchers and policy makers have used in forming laws such as NCLB: "It could be that changes in racial and ethnic achievement gaps have been affected by changes in educational policies and practices that were not captured by conventional indicators" (p. 10).

Reforms proven to have positive outcomes in closing the achievement gap have more often than not occurred at the school level. In fact, when one considers how wider accountability systems work in practice, all reform takes place at the school level, even if it is motivated by state or federal bodies. These include in-classroom reforms in instructional practices such as "high-gain" heterogeneous classrooms, where high achievers assist low-achievers, and increased instructional time, including tutoring and summer programs. A focus on increased content standards for lower level classes coupled with improved teacher recruitment and retention in those classes has also produces positive results (Harris & Herrington, 2006; Balfanz & Byrnes, 2006). Practices such as these are most effective when included as part of a Whole-School Reform model (WSR). WSR models consist of reforms to all school structures that affect student outcomes. Though time and resource intensive, these models address issues at the various levels of the school which have a direct impact on students "and may be more

able to affect the achievement gap than other, more simply implemented reforms" (Balfanz & Byrnes, 2006, p. 143).

Though research on the cultural and economic aspects of the achievement gap is important, the reality is that it will be very difficult for these results to affect broad changes in societal structures to help diminish the gap. "Given that it is hard to imagine how we might go about changing the culture of individuals who seem to embrace attitudes and norms that undermine possibilities for academic success, it is far more sensible to focus instead on factors that we can actually do something about" (Noguera, 2008, p. 94). Research should focus on the previously cited school funding issues to determine how much of an effect funding has on outcomes, and more importantly, how funding should be used. Accountability systems need to be dissected to determine which work and which do not. In particular, examinations of standards versus growth models need to be continued if we are to uncover the best ways to hold schools accountable for student outcomes. Research should also focus on the life consequences of different accountability systems to determine if a focus on developing non-cognitive skills for high-stakes test taking means that students are less prepared for college and beyond.

In light of the effectiveness of WSR models, future research on closing the achievement gap should also focus on identifying the positive and negative school structures that affect the gap. All school structures should come under the researchers microscope, from practices such as academic tracking that have been proven to segregate students academically and socially, to school governance models such as the small school and school within a school movements. As most studies have found positive effects related to in-classroom reforms, particularly in helping students lagging behind to catch-

up with their peers, strategies for recruiting and retaining high quality teachers should be developed. Researchers might also use this opportunity to move the discourse form the idea of an achievement gap to that of an "education debt" in which we are all held accountable (Ladson-Billings, 2007).

Though Michaels, Rothstein and others may have little faith in the ability of schools to affect change, educators in the trenches cannot buy into this form of fatalism. First and foremost, educators must make certain that the structures which operate their schools, from the grandest to the smallest, are at the minimum not exacerbating the achievement gap, not decreasing the life chances of the students who walk their halls. Secondly, schools must work to find ways to close the gap in any way they can as every little bit counts. WSR models and specific instructional and administrative practices have proven to be effective in closing the gap. It is up to researchers to find the best models, structures, and practices to guide educational practice. It is then up to educators to put these structures into practice with the goal that one day schools will become harbingers of opportunity as opposed "to being a direct cause of socioeconomic inequality" (Harris & Herrington, 2006, p. 209-210).

Tracking

Oakes (2005) defines tracking as the process "whereby students are divided into categories" (p. 3) to be assigned to various "tracks", or sequences of courses in a particular school or subject, within the curriculum. Tracks may be considered college preparatory, academic or vocational; may be employed across a student's curriculum or be subject specific. Many studies have shown that the tracks to which one is assigned have an inordinate effect on student academic outcomes and future possibilities (Oakes et

al., 1992; Lucas & Berends, 2002). Instructional and content differences, classroom environment and friendship patterns, ability of teachers, student self-concept, and a host of other factors vary greatly across tracks and conspire to ensure that the initial academic and social differences among students at point of entry will widen as a result of school structures, most notably in the area of academic achievement (Oakes, 2005; Bouffard & Couture, 2003; Byrne, 1988; Lucas & Berneds, 2002; Lee & Byrk, 1988). Inequity in outcomes has persisted despite fundamental changes to the practice of tracking over the years, such as the move from whole curriculum tracks to ability grouping by subject, the initiation of student and parent choice in course selection, and the replacing of vocational education with technical and business education (Gamoran, 2009). As a result, many believe that this tradition has outlived its usefulness as a way to systematically sort students for higher education and provide the citizenry with the education and acculturation necessary to be a productive part of a democratic, capitalist society. Whereas education is seen as the key to the good life in the meritocracy of the United States, the processes and systems that work within education often reproduce the inequalities the system itself was meant to correct. "The weight of the evidence indicates that tracking tends to exacerbate inequality with little or no contribution to overall productivity" (Gamoran, 2009, p. 4).

So why does tracking persist? If studies show that this practice is antithetical to the purposes of education in a democracy and meritocracy, why don't we just put it out to pasture? The answer lies in a twisted confluence of philosophical, political and technical matters. Overcoming the tradition of tracking is one thing; changing the practice to the extent that it reduces or eliminates many of the unequal outcomes it currently produces is

another. In the battle over resources in our society, any change to the process by which they are allocated may result in a change to who has access to those resources. As there is a finite amount of resources in any given society, a redistribution means that some will gain while others will lose, and the losers in this case would be the ones that would not want to see a change to the status quo. Parents, students, and educators alike have a vested interest in this matter, and the present day "haves" are all too eager to ensure that the outcomes the current system produces will remain in spite of any changes to the system. This ties to the philosophical, political, and technical underpinnings of the tracking debate, ensuring that there will be no easy answer to the question of tracking.

Philosophically, the practice of tracking seems to be in line with one of the main functions of schools in our society: the sorting and selecting of students based on their capacities and capabilities (Gamoran, 2009). A historical examination of the use of the practice reveals that throughout our history we have relied on schools to sort and select students for various paths beyond their formal schooling. From the early mental testing of troops in World War I which resulted in grouping by ability for better outcomes, to the Cold War, space race, and perceived need for stronger programs in mathematics and science, to the current post-Civil Rights America concerned with equity of opportunity (Kulik, 1992), schools have been used as "sorting machines" (Spring, 1976) that efficiently allocate students to different socioeconomic roles in society in a seemingly neutral way. Functionalists see this as the main role of schools, arguing that historically "the occupational structures' need for skilled labor provided a mandate for educational institutions to test, sort, and allocate individuals into occupations according to ability" (Johnson, 2008, p.228). Schools thus become "efficient agents of social stratification" (p.

242), making the distribution and allocation of resources in society that much more efficient.

Conveniently, the educational philosophy behind the practices of tracking and ability grouping works well with this role of schools as sorting machines. Proponents of tracking defend it as sound educational practice based on four assumptions:

1. Students learn better when grouped with other students of similar ability
2. Low-achieving students develop better self-esteem when not subjected to exposure to higher achieving students
3. Placement into tracks "accurately and fairly reflects past achievements and native abilities" (p. 6)
4. Teaching to homogenous groups is easier and more efficient for educators (Oakes, 2005)

These assumptions seem to support the idea that tracking is sound educational practice in the best interest of students regardless of the societal need for sorting and selecting students for future roles in the larger society.

The fact that the actual outcomes of the system of tracking do not meet expectations notwithstanding, philosophically a problem arises when one considers the other role that schools take on, that of purveyors of common knowledge and skills meant to prepare students to compete in the broader society (Gamoran, 2009). Herein lies the paradox that is the American education system. Schools are meant to sort and select students for their roles in the larger society, while at the same time supposedly providing equal opportunities for all to succeed and have an equal chance at what they consider to be the *American Dream*. How can schools effectively, efficiently, and fairly serve both roles?

Many scholars argue they cannot, that these dual roles of the educational system are antithetical to one another. Schools simply cannot serve both functions equally. The

practice of tracking has played a large role in determining which of these roles is filled and which is not. By sorting and selecting students at a very young age through ability grouping and ultimately tracking, even at the early primary level, schools are influencing student learning patterns and outcomes to the point that all do not leave school with the same common set of knowledge and skills required to compete for resources in the larger society; there are distinguishable haves and have-nots (Lleras & Rangel, 2008). In this vein, Bowles & Gintis (1976) and other scholars see schools as agents of the status quo. They believe that formal schooling and the structures contained within reproduce social, economic, and political inequities in future generations. The sorting and selecting process prepares lower class students for lower-paying jobs and higher class students for higher-paying jobs, all under the guise of a seemingly neutral meritocracy. This myth of a meritocracy is essential as it provides a legitimation of this process and its unequal outcomes. Cultural reproduction theory thus contends that "schools and society exist in symbiosis to preserve the norms that limit change" in the larger society (Oakes, 2005, p. 204). Critical race theorists support this view as they note the persistence of educational, political, and economic inequalities among the lower classes, classes comprised mainly of racial and ethnic minorities (Ladson-Billings & Tate, 1995). The broader educational, political and economic ideologies that produce school structures such as tracking and ability grouping effect student educational experiences and outcomes in a fundamental way, ultimately reproducing the cultural capital of the surrounding community (Heck, Price, & Thomas, 2004).

This is a key component in understanding the political aspects of the debate. The fact that the practice of tracking leads to uneven outcomes means that some are gaining

access to the social, economic, and educational resources in society, while others are not. Those who are currently the "haves" in this process have a vested interest in maintaining the status quo. The idea of detracking schools is a fundamental challenge to broader social and class structures that exist in American society. Parental mobilization in support of tracking is linked to the socioeconomic factors of the school, community, and society as a whole (Oakes, 2005). Parents are naturally interested in providing the best opportunities for their children, and for many of them that means using school structures to ensure that their children will have the best chances for success, regardless of uneven outcomes for others. As Heck et al. (2004) point out, schools tend to reproduce the cultural capital of the surrounding community. Thus, students in high ability groups are from high ability, and often high socioeconomic, families. These are the parents with the social, economic, and cultural capital to influence the educational system to their own ends. Schools, teachers, and administrators are complicit in this process. As public entities schools rely on the support of parents and families for resources, funding, and legitimacy. Administrators are particularly vulnerable to parental and community influences as they are not protected by tenure so are subject to hirings and firings at the behest of school boards, elected bodies beholden to their constituents. Schools are fundamentally public institutions that are meant to serve the public good in accordance with the wishes of their communities. This compilation of factors means that schools consider the wishes of their more vocal and adamant community members, most often those with the same cultural capital the school itself is reproducing.

This is why many of the well-intentioned, well planned, and seemingly effective efforts at detracking have largely been unsuccessful in producing completely detracked

schools (Oakes, 2005). When examining the four assumptions that underlie the practice of tracking, Oakes asserts that the first three have been proven to be unequivocally false. Tracking seems to reproduce many of the inequalities it purports to address while retarding the academic development of lower level students, lowering their self-esteem and future aspirations. Track placements are largely not a result of an impartial assessment of student abilities, so the fact that there are unequal outcomes is not justifiable. However, the fourth assumption about tracking, that it is easier and more effective to teach students in homogenous groups, has not been disproved. In fact, "most studies of ability grouping and curriculum tracking have found that high-achieving students tend to perform better when assigned to high level groups than when taught in mixed-ability settings" (Gamoran, 2009, p. 8).

Proponents of tracking will speak to this fact when expressing their support for maintaining Advanced Placement, honors, and other high level coursework for students, with little care for the unequal outcomes the system produces for students not in those tracks. Critics such as Oakes (2005) tend to present this as a social justice issue, focusing on the inequalities inherent to the system without acknowledging the effect a change would have on high achievers. In the minds of critics like Oakes, tracking is "simply not worth the educational and social price we pay for it" (p. 14) regardless of the effects of detracking on high ability students. This is a flimsy argument at best. Solving inequalities by creating new ones is not just. More importantly, it is politically problematic and unrealistic. Schools are public institutions that, like it or not, will bend to the political will of their community. The greatest social justice advocate in the world would have a difficult time providing less opportunity for their own children in order to

provide more opportunities for someone else's. This is why many schools that have embarked on detracking efforts maintain a form of de facto tracking for higher ability students (Oakes, 2005). It is a way to garner support for changes that will help a large number of students without alienating the community.

The various outcomes of tracking and detracking policies have proven difficult to pin down for a variety of reasons. While most studies show that tracking and ability grouping widen the gap between low and high achievers (Gamoran & Mare, 1989; Oakes 2005), they have also shown that high achievers can be negatively impacted by heterogeneous academic grouping (Gamoran, 2009). Studies show tracking as having a negative impact on student self-concept and aspirations (Byrne, 1988), only to be countered by others revealing that most students believe they have been appropriately placed, or that they have been misplaced because the subject matter of their course is either too easy, or too hard (Byrne, 1988). Donelan, Neal, & Jones (1994) assert that the lack of consistency in research outcomes is directly related to the lack of homogeneity among tracking practices. Different types of tracking tend to lead to different outcomes, leaving the larger question of what to do about tracking unanswered. Gamoran (2009) contends that the inability to account for pre-existing conditions related to effort, ability, and achievement prior to school entry is the problem. Still others such as Hallinan (1994) believe that tracking itself is not to blame; it is how the process is administered. In studying tracking practices she found that instructional differentiation accounts for much of the effect of tracking, meaning if it were administered in practice in the way that it was intended, it would produce better outcomes. Finally, there are still others who believe that schools can do very little about the achievement gap and unequal outcomes due to

the broader social and economic disparities in American society, and that until there is a major shift in the distribution of resources, school reform, though worthy of attention, may do very little (Rothstein, 2004).

No matter what side of this debate you fall on, the combination of the lack of definitive research and the role of schools as political actors means that tracking will for the most part maintain its place in American school culture. The reality is that until there is a clear, acceptable alternative to current tracking practices they will continue. Research agendas for some should shift from asking whether or not there should be tracking to accepting that there will be tracking for the time being. While research should continue to explore alternatives to traditional tracking practices, researchers and educators should also look to unpack the practice to find out under what parameters it seems to work best, maximizing opportunities for low achievers while maintaining the rigorous education needed for high achievers. One thing many of these studies has provided is a clear vision of what tracking practices look like and how they may or may not contribute to certain outcomes. A concerted effort on the part of educators and researchers to uncover the best tracking practices and put them into practice might be a realistic way to address at least some of the inequities this system is producing, if not all.

Research on tracking practices in Israel (Ayalon & Gamoran, 2000) and Taiwan (Broaded, 1997) have concluded that the impact of tracking is context dependent and that the effects of the practice can be reduced or eliminated with careful consideration of the factors involved with the tracking practice itself. In addition, Garet & DeLany (1988) contend that tracking practices are a result of loosely connected school processes involving structures such as student placement, scheduling, and teacher assignments.

Many studies actually uncovered blatant tracking practices in schools that administrators considered detracked (Heck et al., 2004; Oakes, 2005). It seems then that an analysis of the different characteristics of tracking practices might lead to recommendations about which of these practices are beneficial and which are not. In her seminal 1985 book *Keeping Track*, Oakes identified five common elements of tracking policies and practices. These include:

1. Extent – the proportion of the total number of classes that are tracked in a school
2. Pervasiveness – the number of subject areas tracked in a school
3. Flexibility – whether students are tracked by subject or across more than one subject on the same criteria
4. Mobility – the amount of student movement up and down track levels
5. Locus of Control – who makes the decision about where students belong (Oakes, 2005, p. 48-49)

By examining these five common elements and unearthing the best practice in each, researchers may be able to identify the tracking practices that work best, minimizing differentiation among student academic and social outcomes while maintaining appropriate paths for high achieving students.

For example, many scholars have found that the racial, ethnic, and socioeconomic gaps that exist in most public high schools are minimized in private and Catholic schools (Lee & Byrk, 1988). This has been attributed to the fact that most of these schools limit point of entry to academic subjects to three tracks and change the intensity of instruction and pacing in classes, not the content. Findings such as this can help schools to determine the appropriate amount of extent and pervasiveness in their tracking. Johnson (2008) and Hallam & Ireson (2007) both point out the importance of mobility as part of the process. Johnson, in his discussions on the effects of "place" in school structures,

notes that having a strong tradition of mobility and diagonal movement among tracks can help to placate many of the philosophical, political, and technical obstacles to effective tracking. Therefore, studies that examine Oakes' element of mobility among and within tracks may produce desirable characteristics of tracks, such as course sequencing and master scheduling, that should be replicated in all tracking systems. Finally, Heck et al. (2004) have examined the effects of student choice on track placement and how that interrelates with guidance services in schools. Their findings suggest that though student choice does not seem to have a great effect on how students are tracked in schools, effective counseling practices can. This speaks to the locus of control element and may help schools decide how to most effectively build the structures that actually place students in their designated tracks.

Of course, tracking is more than just organization and structure. It is a process that "is inextricably connected with and supported by other school practices" (Oakes, 1992, p. 17). Therefore, all aspects of the school experience must be evaluated. Hallinan's (1994) finding that instructional differentiation seems to account for much of the differences that tracking produces is obviously important and needs to be addressed in the way that schools treat lower tracked classes through teacher assignment, content, and pacing. Oakes (2005) and others who espouse cooperative learning techniques have shown this practice to be quite effective in dealing with heterogeneous groups. It is possible that tracking can be eliminated in curricular areas that are stratified by topic as opposed to those organized sequentially by difficulty. In turn, this might solve some of the negative technical effects of tracking that keep students in similar tracks across the curriculum despite the fact that the school tracks by subject. Students tend to wind up in

similar classes across tracks due to the limitations that the master schedule imposes on course scheduling for individual students (Oakes, 2005). In addition, students of color tend to want to take classes with students of their race or ethnicity regardless of ability levels (Yonezawa, Wells, & Serna, 2002). Heterogeneous grouping in the appropriate subject areas might result in more students of color willing to step out of their comfort zone to take challenging classes without the familiarity of faces of color in their classroom. Better yet, it might encourage so many students to do so that the high level courses in tracked areas become filled with faces of color. "Ultimately, how students are arranged matters less than the instruction they encounter, so bringing together research on tracking with research on teaching offers the most useful way to shed light on this topic" (Gamoran, 2009, p. 15).

In the end, the practice of tracking has such a great effect on all students that track formation and assignment must not be something that simply occurs haphazardly as a result of various school structures acting in concert; it must come from research on effective practices in tracking and teaching in tracked and detracked schools and curriculums. Bandura's (1986) sociocognitive theory tells us that student motivation is a social construct built over years through a combination of individual learning activities and experiences. Tracks are "emergent structures" resulting from the academic and social experiences of students that see them take up sociocurricular positions within schools (Heck et al., 2004). In addition, examinations of self-concept have shown that student self-perception is as crucial to success as curricular relevance (Bouffard & Couture, 2003). Basically, the structure of schools combined with how students react to those structures makes the difference in outcomes (Bowles & Gintis, 1976). The

implications for educators who engage in tracking are enormous. From the first day a student walks into a classroom, the experiences that student has helps to form who they will be as students and as adults. If it is a philosophical, political, and technical reality that we are to engage in tracking practices for the foreseeable future, we must ensure that these practices are facilitating appropriate outcomes, not determining inappropriate ones. Research into effective tracking practices is vital to this effort.

Mobility

It would seem that any defense of tracking would naturally need to be centered around this idea of mobility, that students are not stuck in these tracks that produce unequal outcomes, but may move up or down through merit and hard work, or lack thereof. This would seem particularly important in light of the sociopolitical system that schools operate within and the presumption of meritocracy that underlies said system.

The literature on mobility is scare at best, with one study tied to social mobility theory that may be useful in examining educational practice and a few others that examine this practice in schools specifically. Turner (1960) describes two types of social mobility patterns, one of which is analogous to tracking systems in American schools. The first, sponsored mobility, would be antithetical to a meritocracy. In this type of mobility students are chosen early on for elite status and for the most part maintain this status throughout their schooling. They are separated from their peers early on and given access to opportunities not afforded to others. With sponsored mobility, students may move out of elite status but never move in. By contrast, contest mobility offers all a seemingly equal chance at those elite societal (or school) positions. Separation by status is delayed and is based on merit, perceived abilities, drive, and other

characteristics. This type of mobility allows movement in either direction, from top down to bottom up, with this movement once again based on merit. This type of mobility most resembles that seen in American schools.

In his study of tracking policies at a junior and senior high school, Rosenbaum (1976) uncovered what he believed to be a tournament model of mobility. This model sees track placement and maintenance as a tournament, with students afforded an initial opportunity to be in the higher, college preparatory tracks. However, once the "tournament" begins students are cycled down the tracks as they win or lose each game in the tournament. The tournament model is based on merit, but predicts only downward mobility.

Other theories see initial student placement and mobility as a result of student and school characteristics. Hallinan and Sorensen (1986) see track mobility as a vacancy competition. Schools have limited spots in the various tracks so mobility is co-dependent, a student can only move to a higher track when a student from a higher track moves to the lower track. Similarly, Barr and Dreeben (1983) saw the demographics of entire classes as highly influential on track placement and mobility. For example, a senior high school class that has a number of high achievers may have more upper-level track courses and more opportunities for students to move to that level, while one with lower achievers may have limited upper track offerings, making it consequently more difficult to be mobile and move tracks. This seems to couple with Hallinan and Sorensen's idea of a vacancy competition. Garet and DeLany (1987) view track mobility as something that is limited by the characteristics and structure of the school itself. Schools have limited resources in the way of teachers and course offerings and various ways in which they

place students into tracks. This means that matching students to courses and tracks is a complicated process that involves a number of complex factors, including but not limited to student placement, student choice, freshmen year course offerings, tracking polices, and the master schedule.

This once again speaks to Oakes' five common elements of tracking. All of these studies seek to explain or discredit tracking as practice through theoretical or quantitative means, or have identified the fact that tracking and mobility in schools is a result of the organizational structures within the schools themselves. None of these studies actually identify how the characteristics of tracking work in concert to affect outcomes. I can find only one study that actually examines the mobility of high school students in and out of tracks over the four years of schooling in an attempt to understand how and why mobility occurs. Hallinan's 1996 study entitled "Track Mobility in Secondary School" examined longitudinal data from 2,000 students over their four years of high school. She hypothesized "that considerable upward and downward mobility can be expected" (p.988) as a result of a variety of student and school related factors. Hallinan's study "provides convincing evidence that track assignments are not fixed, as commonly believed" (p. 1001). Students move up and down tracks frequently, with only the highest track seeing little movement due to the prerequisites involved with taking those courses. Hallinan also identified a number of independent variables that affected mobility and track changes, including race, sex, and socioeconomic status.

Hallinan's (1996) work strictly examines the amount of mobility within schools, not how that mobility affects the post-secondary plans of students. No research has been done on how mobility specifically affects post-secondary outcomes and how different

types of school structures affect that mobility. There are, however, a number of studies that infer that mobility may have an impact on post-secondary planning. Rosenbaum (1976) discovered long ago that high school tracking systems play an important role in frustrating the college plans of many students. Kao & Thompson (2003) and Oakes (2005) found this to still be the case nearly three decades later. This is due in large part to students' misperceptions about the track they are in as well as the consequences of being in said track. In a subsequent study, he found that even as late as senior year, students' "educational expectations are not perfect predictors of college attendance", with a correlation of .70 between students' college plans and actual attendance (Rosenbaum, 1980, p. 81). In this study he also discovered that track has a significant effect on college attendance beyond plans. Moreover, he found that track placement has an even larger influence on attendance at four-year colleges and universities than it has for all colleges, including two-year schools. Though Rosenbaum's study focuses on perceptions of track placement, he concludes that it is important to communicate to students realistic expectations based on track so that the student may alter their track placement to more accurately reflect their post-secondary plans. He is thus identifying mobility as a vital characteristic of any tracking system in allowing students to realize their post-secondary goals. Lucas (2001) has examined some of these issues in regards to track mobility, school continuance, and social background characteristics that affect the two. His findings that social background issues influence how a student navigates a curriculum in a high school and ultimately his post-secondary path are telling to our efforts here. Based on Bourdieu's (1986) concept of cultural and social capital one might predict that those students lacking in such capital, underrepresented and low-income students, would lack

the social background to navigate the school curriculum as effectively as majority students.

The potential for mobility to affect post-secondary outcomes is also seen in the literature on how peer influences, college aspirations, and school bonding effect post-secondary planning. In his examination of data drawn from the National Educational Longitudinal Survey, Sokatch (2006) found that the single best predictor of four-year college enrollment for low-income urban minority students was the post-secondary plans of their friends. In particular, he found that for this group of students, friends' plans were a much stronger predictor of college attendance than for the overall population of U.S. high school graduates. Cooper (2009) examined the importance of college aspirations on post-secondary planning, noting that blacks, Latinos, and those from lower-socioeconomic classes have lower college aspirations than their white counterparts; aspirations that decline steadily through their high school career. Finally, Berends (1995) discovered that students in tracks that are considered less college preparatory have lower college expectations and are less academically engaged throughout high school. These studies are notable when considering the fact that minority and low-income students, those students whose post-secondary options are directly affected by the achievement gap, are overrepresented in the lowest tracks in high schools (Oakes, 2005). These students are sitting in the lowest tracked classes, the ones considered non-college preparatory, amongst peers who are not college bound. Any aspirations or expectations they may have for their post-secondary selves are quickly diminished by their environment. Worst of all, Rosenbaum's 1980 study illustrates that many of these

students do not have an understanding of the consequences of such placements, or the developing gap between themselves and their higher track peers.

As mentioned previously, a number of scholars see school structures as supportive of, or adverse to, mobility within their curriculum. Garet and DeLany (1987) view track mobility as something that is directly affected by school and curricular structures as they have limited resources in the way of teachers, course offerings and determining track placement. Hallinan (1994) sees school processes as an impediment to true tracking practices and believes that if tracking in practice mirrored tracking in theory, many of the negative consequences of the practice would be reduced. Finally, Johnson (2008) advocates for the need for a strong tradition of diagonal movement within tracks at a school, a tradition that will encourage and assist those students in the lower tracks with post-secondary aspirations to fulfill those dreams. It is therefore reasonable to assume that an established tradition of mobility, with school structures to support it, might have an effect on post-secondary outcomes as students move up tracks, sit side-by-side in classrooms with college bound peers, and increase their own expectations of what their post-secondary plans should be.

CHAPTER III

THE SCHOOLS

The schools chosen for the study consist of four different high schools in two different school districts in the Chicago suburbs. Three of the four schools in the study have a significant population of underrepresented students, drawing students from a range of racial, ethnic, and socioeconomic backgrounds. In addition, all of the high schools involved in the study have much larger than average per pupil expenditures, smaller than average class sizes, a strong history of sending students to a variety of colleges and universities across the country, and are also among the top paying school districts in the State of Illinois, thereby drawing excellent teachers from across the state and region. The demographics of the high schools themselves should provide a fertile population for the study while helping to minimize some of the confounding variables found in the tracking literature that have been linked to student mobility, including school structure and resources, lack of quality teaching, student self-concept, and homogeneous classrooms (Oakes, 2005; Bouffard & Couture, 2003; Byrne, 1988; Lucas & Berneds, 2002; Lee & Byrk, 1988; Garet & Delany, 1987).

District A

District A consists of two high schools, Alpha School and Beta School. The teachers in District A are a well-educated, experienced, and well paid group. In the final year of the study approximately 94% of the teaching staff held at least a Master's Degree.

The average teacher in the District was paid $106,030 for their 14.1 years of experience, compared to the state-wide average of $64,978 for 13.2 years of experience. In addition, these teachers taught students in optimal conditions in terms of school resources, with an average operational expenditure of $19,920 per pupil as compared to the state average of $11,537 (Illinois School Report Card, 2011).

Alpha School

Alpha School has an enrollment of approximately 1,715 students. It is the one school in the study where the vast majority of the students would be considered "majority" students. Approximately 5% of the student body identifies as an underrepresented racial minority or is multi-racial and 2% is low income. Approximately 95% of students move on to some sort of post-secondary education, with 92% attending 4-year college and universities and 3% attending 2-year colleges and universities. The average class size at Alpha School is 17.6 as opposed to the state-wide average of 19.2. (Illinois School Report Card, 2011).

Students at Alpha school are placed into their tracks in English and math through a combination of 8th grade teacher recommendations and scores on the Explore exam offered by ACT and given yearly to 8th graders for academic reporting purposes. Classroom performance and testing are integral to the placement a student receives. Parents of students who wish to "override" the initial placement, or move their student to a higher or lower track, are able to do so. However, counselors at Alpha School report that this process is not publicized to the general public so it is more commonly utilized by savvy parents who know how to work the system. Once a student is enrolled at Alpha School he or she may also override their placement from year-to-year. This process is

more structured and involves conversations with the teacher and department chair as well as a form signed by both student and parent. Any student who overrides their placement for any reason must remain in the course for the first full quarter of the school year, he or she will not be able to move up or down tracks until reaching that milestone in the academic year.

The math curriculum at Alpha officially has six points of entry, though counselors report that only five are used in practice. The lowest point of entry is an Algebra Survey course; Alpha school offers no regular education classes below Algebra. Classes range up to Advanced Algebra with Trigonometry Honors with the majority of students receiving a standard Algebra or Geometry placement. Some advanced students can be placed directly into traditional senior courses such as Pre-Calculus or Calculus as freshmen, though these students are well known by the time they enter high school as they have been identified as excelling in math by their middle school. The math curriculum overall is highly tracked at Alpha School. The original six tracks in the curriculum eventually expand to eight by senior year. At the upper end of the curriculum the Math Department offers AP courses in Calculus AB, Calculus BC, Statistics, and Computer Science as well as a course in Multi-variable Calculus for students who exhaust the AP curriculum prior to graduation. Various tracks lead to possibilities of enrolling in one of the AP courses, with most tracks leaving Statistics and Computer Science as a possibility, the common Geometry track providing Calculus AB as an option, and only the Honors track in Geometry or Algebra II with Trigonometry leaving AP Calculus BC as an option.

As a result of the highly structured math tracks at Alpha School, the initial freshman year placement basically determines a student's course choices and path through their four years at Alpha School. Counselors report that it is difficult and very rare for a student to move up a track in math. In order to do so the student must receive departmental permission and attend summer school. The Math Department at Alpha actively discourages this route so, in turn, the Counseling Department does as well. Counselors report that as a result of this practice the initial high school placement is vital to a student's course options and possibilities as they move through high school.

The English curriculum at Alpha is quite different. As with courses in math, initial placement is made through a combination of middle school teacher recommendations and test scores. There are five points of entry into the English curriculum. However, courses in English are truly untracked during the first two years of high school. The different points of entry coincide somewhat with student interest and somewhat with student skill. For example, some students interested in taking literature as a freshman course might enroll in that instead of the standard English classes while those who need to build reading skills will take an additional reading course paired with their traditional English class. Students are later identified for Advanced Placement (AP) tracks in junior and senior year by teacher identification and recommendation. Counselors report that students "feel like the literature course is an Honors course" but that in practice it really is not, there is no higher percentage of AP students coming out of those courses than the standard English curriculum. In general, there tends to be little movement in the English curriculum do to its structure. Students that are recommended for the AP track in junior and senior year will or will not enroll based on the perceived

workload of those classes and their future goals. It is also rare for someone who does not start in an AP class as a junior to then enroll as a senior.

Overall, counselors report that there is a great amount of strategizing by students and parents at Alpha School in regards to their yearly courses and four-year plans. Many students will utilize summer school to balance their school year schedule. For the few low-income students in the school counselors tend to pick up the role of advocate and advisor, helping them choose their courses and plan their curricular life at Alpha to a much greater extent than they do with majority students. Counselors also express dismay over the lack of mobility by students across the curriculum and really feel that the initial high school placement in large part determines a student's academic path. This is especially frustrating to them as the practice of middle school articulation days, where the middle school teachers spent the day with the high school teachers to gain a better understanding of the curriculum, has been abandoned. Counselors feel that this practice was of vital importance if the middle schools teachers, whose recommendations weigh so heavily in initial placement, are to have the best amount of information possible in making those placements.

Beta School

Beta School has an enrollment of approximately 2,060 students. Though it is in the same high school district as Alpha School, the demographics of its student body are much different. Approximately 21% of the student body identifies as an underrepresented racial minority or multi-racial and 14% is low income. In addition, Beta School enrolls a number of military students housed at a local base that comprises approximately 5% of the student population, adding an interesting dynamic to the school.

94% of Beta students pursue a post-secondary education, with approximately 79% attending 4-year colleges and universities and 15% 2-year schools. The average class size at Alpha School is 16.2 as opposed to the state-wide average of 19.2. (Illinois School Report Card, 2011).

As with Alpha School, students at Beta school are initially placed into freshman year classes through a combination of teacher recommendations and standardized test scores from the Explore exam administered to students in the 8th grade. However, as opposed to Alpha School, Beta school does still hold an annual articulation conference between the middle school and high school academic departments so that middle school teachers have an adequate knowledge of the high school curriculum when making their placements. Counselors report that teacher recommendations hold heavy weight in the initial placement process and are used in concert with the test scores to make an appropriate placement. It is possible for a student and parent to override the initial placement and it is a very easy and open process. As with Alpha school, students who override a placement must remain in that class for the first full quarter before moving levels.

There are six common entry points into mathematics at Beta School, though counselors report that one of the tracks is a disservice to higher achieving students as it limits their future curricular options so is rarely used. A survey course in Algebra is the lowest possible entry point and the majority of students will be placed into Geometry initially as they have completed their Algebra coursework in middle school. There is also a possibility for high achieving students to enroll in advanced course work in the freshman year in Pre-Calculus and Calculus. These students will have already attended

Beta School for math classes while still enrolled in middle school as they will have exhausted course options in math at their respective schools. At the back end of the curriculum students may be eligible to enroll in a variety of AP classes, including Statistics, Calculus AB and Calculus BC. AP Computer Science has been offered in the past as well but may or may not run in a given year based on the number of interested students.

The math curriculum at Beta school is tracked. However, as opposed to Alpha School, Beta School has structures in place to support "diagonal movers", or students wishing to move up a level in math. A summer bridge program combined with student cohorts of diagonal movers and structured support during the school year such as a math intervention specialist combine to give students the opportunity to attempt a level change from one year to the next. Students are also allowed to move tracks based on a proficiency exam they can take to prove content knowledge necessary for the move. Though it is difficult to do so, it is encouraged and supported by the Math Department, Counseling Staff, and school administration. Because of the availability of bridge courses for diagonal movers and the flexibility of the curriculum, all students with the exception of those who start in the Algebra Survey course who complete the Algebra and Geometry sequences successfully (B- or better) are eligible to enroll in the AP Statistics and Computer Science Courses. It is also possible for all of these students to eventually enroll in Calculus or AP Calculus as seniors, though Counselors report that this is very difficult for someone who began with Algebra as opposed to Geometry. Only students who placed into Geometry Honors or higher as freshman are eligible to take AP Calculus BC or the post-AP Multivariable Calculus course.

Counselors report that the math curriculum at Beta is essentially tracked after sophomore year, as the options for diagonal movement decrease substantially. Many also conveyed concerns about the ease of student and parent overrides of proper placements. One counselor noted that "Students wanting to keep up with their peers can result in overrides, wanting to be where they think they should be instead of where their skills say they should be." As a result, there are a number of students who are improperly placed each year due to overrides and their grades suffer for it due to the fact that they must remain in the class for the full quarter and that grade travels with them even when they move down a level in the curriculum.

The freshman year English curriculum at Beta school is officially untracked, though in practice the three levels offered are essentially tracked. As with math, students are placed into their courses based on a combination of teacher recommendation and their score on the Explore exam. The vast majority of students are placed in to a standard English I course, those in need of additional support with their reading are placed into a double period English plus Reading course, and those who score the highest on the Explore exam are offered enrollment in an English Seminar course, a double period multi-disciplinary class that includes World History and is co-taught by teachers from English and Social Studies. Official tracking begins in the sophomore year when an English II Honors class is offered. Counselors report that the majority of students who are recommended for and enroll in the English II Honors course come from the English Seminar Class. However, counselors also note that this class has a reputation for being notoriously difficult and is seen as a "weed out" class for the English AP curriculum. As a result many students choose not to pursue that course though they may have been

recommended for it. The fact that a student may still be recommended for the junior and senior year AP curriculum out of either of the top two tracks adds to their impression that many students opt out of this course due to the perceived rigor.

Overall, counselors report that there is much "gamesmanship" in regards to the decisions that students and parents make in their curricular choices, especially among majority students. For example, they noted that the lowest level English class offering is known as a class that is full of students of color so the parents of majority students will consistently override that placement regardless of whether or not it is appropriate for the student. Increased parental and peer expectations can also be very daunting for these students. They do talk to students about maintaining balance in their schedules, taking a combination of courses that allows them to have the most rigorous coursework possible while maintaining grades and keeping from feeling overwhelmed. This may result in some of the aforementioned game playing as students take easier courses in some areas to compensate for more difficult courses on their schedules. Though the counselors see the availability of diagonal movement as a positive, they worry that "some minority students are pushed to move diagonally though they are not ready." And all counselors interviewed expressed real concern over the military students who often transfer into Beta School from weaker academic schools around the country and are either placed in lower level courses than they are accustomed too or are placed in a proper course sequence and struggle with the rigor. It seems that the counselors ta Beta School have their work cut out for them in this area as they have such a broad base of students from a variety or racial, ethnic, cultural and socioeconomic backgrounds. As one counselor put it: "I have

to work real hard to make sure not to bypass students and their abilities based on my first impressions of them."

District B

District B consists of two high schools, Delta School and Gamma School. The teachers in District B are also an experienced and well-educated group that is paid accordingly. In the final year of the study approximately 87% of the teaching staff held at least a Master's Degree. The average teacher in the District was paid $103,514 for their 13.5 years of experience, compared to the state-wide average of $64,978 for 13.2 years of experience. In addition, these teachers enjoyed an average operational expenditure of $22,489 per pupil, almost double the state average of $11,537 (Illinois School Report Card, 2011), ensuring that they enjoy some of the best educational resources available.

Delta School

Delta School has an enrollment of approximately 2,170 students. It is a very diverse school that services students from a variety of ethnic, racial, and socioeconomic backgrounds. Approximately 23% of the students identify as underrepresented minorities or mixed-race students and 32% of the school identifies as low-income as defined by inclusion in the Federal Free and Reduced Lunch Program. Less than half of the school population identifies as White. Approximately 89% of students move on to some sort of post-secondary education, with 63% attending 4-year college and universities and 26% attending 2-year colleges and universities. The average class size at Alpha School is 18.2. (Illinois School Report Card, 2011).

As with the other schools in the study, initial placement into math and English courses occurs through a combination of teacher recommendation and Explore Test scores. However, counselors express that in their opinion testing has become the most influential piece of the placement. Parent influence on the initial placement process is somewhat different at Delta School. Instead of appealing directly to the high school, parents appeal the teacher recommendation directly to the middle school teacher. If the middle school teacher agrees to change his or her recommendation an initial placement can be changed. However, if the teacher does not alter the recommendation then the parent must go through the high school and use the override process. Unlike schools in District A, where students must remain in the class a full quarter, there are no official restrictions or ramifications to an override. The lone possible ramification is that a student may or may not be able to move to the class they want based on space availability. Overrides are approved by department chairs that vary greatly in granting them, some chairs grant overrides quite freely while others adhere more strictly to what the test scores and teacher recommendations say the placement should be. In the end though, counselors note that "the squeaky wheel gets the grease", parents of students who are adamant about a level change can effectively make it happen by going up the change of command until they get approval.

The math curriculum at Delta has five official entry points. The lowest entry point consists of a Math with Geometry class that is a general math class designed to build skills. Students in this track are limited as to what courses they can eventually enroll in senior year, a full Geometry class for the lower achieving students and an Algebra II class for the higher achieving ones. All other students are placed into an

Algebra sequence that is either Algebra I or II depending on whether or not the student successfully completed Algebra in middle school. Students who enroll in the higher level Algebra I are tracked to Pre-Calculus but can move up tracks through teacher recommendation and department chair approval. This process involves taking a summer bridge course and would offer the student the possibility of enrolling in AP Calculus as a senior. Students placed in Algebra II as freshmen are placed in upper or lower tracks that conclude with coursework in AP Calculus BC or AB respectively.

Overall the math curriculum at Delta School is tracked but there can be much fluidity between the tracks. Counselors state that the summer bridge courses in math are very supportive of students and are actively encouraged by the math department. As a result, this is seen as a feasible way to move up tracks so is taken advantage of on a fairly regular basis. In addition, on rare occasions a simple teacher recommendation can move a student up a level, multiplying the opportunities for positive movement among tracks. Counselors also report a good amount of "game playing" by students in the upper level of the math curriculum as they decide between the tracks leading to AP Calculus AB or BC and look to strike a balance between success and rigor in their overall schedule.

The English curriculum at Delta has three basic entry points. The lowest track is a standard Freshman English class with an added reading component that effectively makes the class a double period English. The standard level is a freshman English class and the advanced placement is a Freshman English Honors class. The first two tracks prepare students for four standard years of English with the middle track leading to a College Preparatory English Class. Only the Honors track provides students with the opportunity to enroll in AP English in their junior and/or senior years. In addition to the

standard full year courses, the English Department at Delta also has a rich offering of one semester courses that are offered throughout the year.

Though English is a highly tracked curriculum at Delta, it is fairly easy to move between tracks from year to year. Students can be recommended for movement through teacher recommendations each year. As a positive teacher recommendation is vital to this process, classroom performance is by far the most important factor in moving up, or down, a track from year to year.

Overall, the curriculums at Delta School are highly tracked but on paper offer much flexibility between tracks from year to year through summer bridge courses and teacher recommendations. When it comes to students actually moving, however, counselors report that there are a number of barriers to a student successfully moving from one track to another. The student's skill set and confidence can be a major reason for a student's failure to move tracks. Counselors note that many students have the intellectual ability to move to Honors level courses in particular but maybe do not have the organization, time management, and study skills necessary to be successful in the more rigorous coursework. A structural impediment to moving tracks is seat availability. When a class is full or overenrolled the students moving up a track are the first ones dropped from the course. Another structural impediment is the timing of scheduling and late teacher recommendations. Because scheduling for the following academic year is completed well before the end of the current year a student who is not recommended for a level change until near/at the conclusion of the academic year may find that there are no seats available in the course and thus are unable to make the move.

Gamma School

Gamma School is the largest school in the study with an enrollment of 2,560 students. Like Delta, it is a diverse school that services students from a variety of ethnic, racial, and socioeconomic backgrounds. Approximately 24% of the students identify as underrepresented minorities or mixed-race students; 32% of the school is low-income and less than half of the school population identifies as White. Approximately 94% of students move on to some sort of post-secondary education, with 61% attending 4-year college and universities and 32% attending 2-year colleges and universities on average . The average class size at Alpha School is 19.5. (Illinois School Report Card, 2011).

Gamma School has by far the most involved process for initial student placement and scheduling. As with Delta School, course recommendations are made by middle school teachers and combined with results from the Explore testing to make an initial placement recommendation. In addition to this, the high school offers a curriculum overview night for 8th grade parents and counselors follow up with a 30 minute intake meeting with the parents of each incoming freshman to discuss their placements and overall schedule. This process has been "nuanced and re-worked" over the years into what the counselors believe is a very effective placement model. When it comes to the initial placement, this conversation and the recommendation from the middle school teacher carry the most weight in the process. Counselors highly value the intake meetings and discussions that revolve around placement as they feel it gives families a good basis for the decision making that happens resulting in "options for initial placement that are more appropriate". When changing the initial placement recommendation, counselors have much influence over the English curriculum and are free to change placements within certain parameters. Changes to math placements,

however, are much more difficult as that process involves an approval by the department chair. Either way, counselors report that parents and students can always eventually get the placement they desire through a waiver system that allows them to waive the initial placement in lieu of their choice of classes. The lone obstacle to this is space availability.

The math curriculum at Gamma is highly tracked from the beginning of freshman year. Students are placed into one of five entry points, with the vast majority enrolling in an Algebra course. Students on the low end of the spectrum enroll in a combined Math Skills/Geometry course that will eventually lead to senior year courses in regular Geometry or Advanced Algebra. Students who successfully completed Algebra in middle school can enroll in an Advanced Algebra or Geometry course for their freshman year, tracks which lead to AP courses in Calculus. As with Delta School, Gamma has summer bridge courses that afford students the opportunity to change levels from year-to-year. Counselors report that the majority of this occurs between freshman and sophomore year. The math department at Gamma actively encourages "diagonal movers" in their curriculum, using instructional time to talk to the class as a whole and individual students on a one-on-one basis as to the possibilities of moving up a level in math. Counselors report that their impression is that overall students stay in their general tracks. Movement that does occur tends to be in a positive direction, few move down.

The English department at Gamma is also tracked, with an honors course offered in the very first year. Students can be placed in one of three tracks their freshman year with the lowest track coming with an additional, complimentary reading skills class that results in a double period English course. This additional course is not always given to students in the track but is often offered to students who have been identified as needing

the additional assistance through Explore scores and teacher recommendations. It is fairly easy for students to move tracks in English, especially from freshman to sophomore year when many students in regular English will move to the Honors track. The Honors track leads directly to AP courses in junior and senior year, though it is not a requirement that a student be in the Honors track to enroll in one of these courses. Any student may enroll in AP courses as a result of teacher recommendation. The English Department offers a summer, .5 credit bridge course to help students who wish to move to the honors track prepare for the more rigorous coursework, but it is not required. Counselor note that overall students have a real appreciation for the English courses and the Honors weight and rigor associated with them. As a result they tend to see a good amount of movement from the standard courses to the Honors sections.

In discussing tracking and mobility with counselors they were quick to note a possible obstacle to students. Counselors spoke of substantial disparities among the academic preparation offered by the different middle schools in the district. They noted that most of their middle schoolers "are simply not prepared for the transition to high school academically from a motivational and skill-set standpoint". To the contrary, one middle school in particular has a very strong track record of getting their students ready for the rigors of high school and thus has a disproportionate amount of Honors students at the school, but this is an exception. This is a noticeable source of frustration among the counselors. However, they are very encouraged by the structures in place to assist potential diagonal movers in their school. Despite the perceived lack of academic preparedness of some of their students upon entering Gamma School, counselors see viable options for late bloomers to move tracks and enroll in some of the more

challenging courses at the school that may not have been appropriate upon initial placement but become more so as students gain the skills and confidence necessary to achieve in some of the more rigorous coursework at Gamma. However they also note concern over the fact that much of the summer course offerings have turned into more remediation-type of coursework due to the lack of academic preparedness of some of their entering students.

Overall, the schools in the study are both similar and very different in their tracking practices. At three of the schools in the study test scores and teacher recommendations are used exclusively for initial placement, while the fourth school includes a freshman intake meeting. All of the schools allow parent overrides in regards to placement, but two of the schools connect consequences with overrides while to do not. Three of the schools actively encourage mobility while one actively discourages it, and all three of the schools that encourage mobility offer summer bridge programs as a way to assist students with the transition. A complete look at the four schools, their demographics and tracking policies can be found in Tables 1 & 2.

Table 1. Demographics by District & School

District	Avg. Teacher Salary	Faculty Avg. Experience	Per Pupil Expend.	School	Enrollment	Student Population	Avg. Class Size	Post-Secondary Plans
District A	$106,030	14.1 Years	$19,920	**Alpha**	1,715	95% Majority 5% Underrep. 2% Low-income	17.6	92% 4 yr schools 3% 2-yr schools 5% work/military
				Beta	2,060	79% Majority 21% Underrep. 14% Low-income	16.2	79% 4-yr schools 15% 2-yr schools 6% work/military
District B	$103,514	13.5 Years	$22,489	**Delta**	2,170	77% Majority 23% Underrep. 32% Low-income	18.2	63% 4-yr schools 26% 2-yr schools 11% work/military
				Gamma	2,560	76% Majority 24% Underrep. 32% Low-income	19.5	61% 4-yr schools 32% 2-yr schools 7% work/military

Table 2. Tracking Practices by School

School	Initial Placement Basis	Points of Entry- English	Yrs. Tracked - English	Points of Entry - Math	Yrs. Tracked -Math	Student/Parent Override of Placements	Diagonal Movement Encouraged?	Summer Bridge
Alpha	Explore Scores, Teacher Recs	Five	Junior & Senior only	Six	All Four	Yes, Students remain in course for 1st quarter	No	No
Beta	Explore Scores, Teacher Recs	Three	Sophomore, Junior, Senior (Freshman in practice)	Six	All Four	Yes, Students remain in course for 1st quarter	Yes	Yes - Math
Delta	Explore Scores, Teacher Recs	Three	All Four	Five	All Four	Yes, subject to space availability	Yes	Yes – Math & English
Gamma	Explore Scores, Teacher Recs, Intake Meeting	Three	All Four	Five	All Four	Yes, subject to space availability	Yes	Yes – Math & English

CHAPTER IV

RESEARCH METHODOLOGY

The achievement gap between varying racial, ethnic, and socioeconomic groups in the Unites States exists as a result of a confluence of factors. Many of these factors, such as family dynamics and parental involvement, access to resources, a culture that places other types of achievement above scholastic ones, etc., are out of the control of school officials. This cannot, however, be an excuse for inaction on the part of educators. It is vital that schools are the tools of the American meritocracy, minimizing or hopefully closing the achievement gap, not contributing to it. Unfortunately, a number of the aforementioned studies have identified school organization and structures as having an enormous impact on student achievement (Oakes, 1985; Garet & DeLany, 1988; Garet, Agnew, & Delany, 1987; Hallinan & Sorensen, 1986). The literature shows conclusively that various school structures, such as tracking, not only fail to diminish the achievement gap, they contribute to it. Tracking practices are related to post-secondary aspirations and outcomes (Sokatch, 2006; Oakes, 2005; Berends, 1995) and thus have a direct impact on the gap between races and classes.

As the social, political, and economic realities of the American school system necessitate the maintenance of this practice, it is vital that schools identify ways to reduce the negative impact this practice has on the post-secondary outcomes of students. International research on tracking practices has concluded that the impact of tracking is context dependent and the negative effects of the practice can be reduced or eliminated

with careful consideration of the factors involved with the tracking practice itself (Ayalon & Gamoran, 2000; Broaded, 1997). Though many studies have shown the disastrous results of tracking practices, none have thoroughly examined the common elements of tracking practices (Oakes, 2005) to ascertain which of these practices might reduce or eliminate its negative effects. This study will examine one of those elements in an effort to uncover effective tracking practices. In particular, the study answers the question as to how one of Oakes' (2005) five common elements of tracking, mobility, affects student outcomes by examining how different types of mobility influence the post-secondary plans of a group of high school students.

This research seeks to answer three questions in relation to mobility. First, is there a relationship between mobility and race/socioeconomic status? Do we find that those with social and cultural capital take advantage of opportunities for positive mobility at a greater rate than those without that capital? Second, is there a relationship between mobility and the post-secondary outcomes of students? Do we find that students with positive movement among tracks experience better outcomes? Third, does negative mobility in English or math have detrimental consequences to the post-secondary plans of students? Does negative movement in these areas produce diminished outcomes? In addition to these, this case study will also examine whether or not certain placement and tracking practices promote or inhibit mobility. And finally, on an individual school level, do certain school structures promote or limit mobility more than others?

A Case-Study

I chose a case-study research design that examined both a large population of students through quantitative means in addition to individual school structures to answer

these questions. An examination of a large number of students, their mobility or lack thereof, and its relationship to their post-secondary outcomes, is the best way to objectively analyze whether or not mobility is an element of tracking practices that may exasperate or minimize the differences in student outcomes and resulting achievement gaps. The addition of the case study of the different high schools in the study will also help uncover tracking practices that may promote and/or limit mobility.

This study examines two graduating classes of students from four different high schools located in the Chicago suburbs. All of these high schools have very high per-pupil expenditures, graduation and college-going rates well above average, and high teacher pay that attracts some of the best, most experienced teachers in the area. These factors should help mitigate confounding school organizational and structural variables present in the literature on tracking such as lack of resources, environment, and teacher experience. Three of the high schools in the study also have a healthy percentage of students that are considered underrepresented in higher education, most notably Native American, African-American, Hispanic-American, and low-income students (Desjardins, Ahlburg, & McCall, 2002; Myers, 2003; Pathways to College Network, 2003). Students who identify as multiracial were also included in the underrepresented group. The study involves an examination of sample groups from two graduating classes from each of the four high schools, totaling 959 students. A random number generator combined with a proportional stratified sampling method was used to ensure that a significant portion of subgroups was captured in the sample: majority, underrepresented and low-income groups, and that the sample is gender balanced. The 959 student sample comprised approximately 26% of the total population of 3,613 students. All students in the study

were examined initially with subgroups being identified for additional comparative purposes. In addition, overall mobility and mobility by subgroup was examined by school to lend insight as to whether or not the varying tracking practices of the schools promoted mobility.

Counselor Meetings

Prior to the beginning of the study meetings were held with representatives of the counseling departments from each of the four schools. Heck (2004) and Oakes (2005) both uncovered tracking practices in schools that administrators considered completely untracked. Having worked in high school settings for fifteen years I have personal experience with the intricacies of curriculums and the tracking methods that guide student placement. Each school has its own methods and structure so I knew that gaining an intimate understanding of the process at each school was vital to quality data collection and coding. Learning more about the curriculum and how the typical student moves through said curriculum helped identify the tracks in the schools that exist in practice, not just the official ones that may or may not exist on paper. I met with counselors as opposed to administrators or department chairs because counselors at each of these schools are intimately involved with the scheduling process so have a unique understanding as to how typical students are initially placed in and move through the curriculum in their respective schools. They work with their students for the full four years they are enrolled so have a grasp on the intricacies of the process for individual students and are able to see the big picture of tracking across the curriculum, as opposed to teachers and department chairs that tend to be more myopic in their view. This gave critical insight as to how tracking works in practice at each of the schools. Counselors

also provided vital information in regards to interpreting the transcripts, such as the structure of the transcript itself, school and class codes, how repeated and summer school courses are identified, and so on. IRB approval was granted for this portion of the study as counselor comments were vital to the study itself and also used to give substance to some of the findings.

Data Gathering

The main units of analysis for the study are the students themselves, how they move through the curriculum at their respective schools over the four years and their post-secondary plans. Data on this movement was captured from student transcripts from two recent graduating classes obtained from each of the four schools. Information on the post-secondary plans of those students is also captured in student records as the schools must send final high school transcripts with posted graduation dates to all post-secondary institutions. Any student who did not have a final transcript sent to a post-secondary institution was considered to have entered the work force or military. Discussions with the counseling staffs at each school resulted in the determination of identifiable tracks in the two curricular areas to be studied, math and English. Math and English have been chosen as the curricular areas to be studied because they are the only two areas where more than two years are required for graduation from an Illinois high school. Other curricular areas have only two year requirements, such as science and social science, or none at all, such as foreign language. Students are required to complete a minimum of three years of both English and math, ensuring good data from all graduates. Inclusion of other curricular areas that do not require a minimum of three years could result in a

skewing of data in those areas as higher achieving, college bound students would be the ones looking to exceed the minimums.

Student movement among these tracks was determined by a simple plus/minus system as determined by track movement for each year following the initial placement in freshmen year. A student who moved up a track level in a curricular area was assigned a +1, a student who moved down a track level was given a -1, and a student who maintained their track level was given a zero. A student who opted out of taking a course in their senior year was given a zero with one exception, when the student had not completed a math course beyond Geometry and failed to take a class in his or her senior year. Coursework beyond Geometry is almost universally necessary for enrollment in 4-year colleges and universities so failure to take that course when having the ability to do so was considered a negative (College Board, 2012; Achieve, Inc., 2005). In addition, any student who was forced to repeat a course in a particular subject was also given a negative as the student never reached the seminal course in that curricular area based on initial track placement. Every student transcript was analyzed in this way for each of the two curricular areas.

Table 3. Data Analysis Example

Subject	Fr-Soph	Soph-Jr	Jr-Sr	Total
Math	0	+1	0	+1

These movements, or lack thereof, determined which of the three classifications of mobility the student was then assigned to: no movement (NIL), positive movement (PM), or negative movement (NM). NIL consisted of students that finished their four-

year course sequence in the same track in which they started. PM identifies students who completed the four year sequence in a track higher than their initial freshman year placement; NM students who finish at least one track below their initial placement. The movement was examined in the individual curricular areas as well as through a combination of the two areas. Students with any positive mobility in one of the curriculums were identified as PM. Students with negative mobility in one or more were NM. Students who had no identified movement in either track were NIL. As part of the data analysis I also examined students who had both positive and negative movements in their curriculum which resulted in those students finishing high school in their original track placement. However, the expected counts for certain portions of the study were too low to draw any statistically relevant conclusions for this group so these movements were ultimately considered positive as the students in these categories did experience positive movement at some point in high school. Movements were thus recorded for math and English separately plus a combination of the two.

As Rosenbaum (1980), Oakes (2005) and others have found final track placement to be an indicator of post-secondary plans, the student's final overall track level in math and English upon graduation was also identified. Each of the schools had unique tracking practices so it was necessary to devise a way to equate tracks to one another among the different schools. In order to norm track levels among schools, all tracks were considered Basic (B), College Prep (C), or Advanced (A). The Basic track is the lowest track at the school. The College Prep track is considered the mid-range track at the school and the Advanced track the highest level track at the school. As part of the initial meetings with counselors tracks were identified as Basic, College Prep, and Advanced at

each of the schools. A student's final track placement was considered to be the Basic track if more than half of their classes in English and math consisted of courses in the lowest track of the school. Students whose curriculum included one-half of College Prep courses or more were considered to be in the College Prep Track and those with more than half of their classes in the highest track level were considered Advanced. It is thus possible for someone in the Advanced track to have some negative mobility as their overall curriculum placed them in the Advanced Track despite the negative movement. Conversely, it is possible for someone in the Basic track to have positive mobility as their overall curriculum kept them in the Basic track despite the positive movement. As the literature also shows GPA to be a determining factor in college attendance, the student's final high school GPA was recorded as part of the data gathering. Do to the various ways that high schools weight grades, unweighted GPAs were used and record it in ranges of .5; 4.0-3.5, 3.5-3.0, etc.

Variables

The independent variable in the study is mobility. Oakes (2005) defines mobility as the movement of students up and down track levels within a school or curriculum. The process described above provided mobility classifications in English and math for all students and subgroups of students at the different schools in the study. Initial analysis included an examination of student subgroups to see if any of the subgroups are disproportionately represented in any of the mobility classifications. This analysis was performed for the entire sample population in addition to population by school.

Michaels (2006) and Noguera & Wang (2006) have concluded that school structures benefit those with cultural and economic capital as parents and students use

this knowledge to work the school system to their own benefit. In this case, that could mean utilizing school and outside resources to advance through the curriculum in a positive direction. Conversely, this means that those without such capital, students from underrepresented groups and low socioeconomic backgrounds, fail to take advantage of these opportunities, limiting their mobility and potentially their post-secondary outcomes. Thus, the first hypothesis for the study is that underrepresented and low-income students will be over-represented in the NIL and NM groups while majority students will be overrepresented in the PM groups.

The dependent variable in the study is the post-secondary path of the individual student upon graduation. Each of the dependent variables was defined by the student's individual post-secondary plans. These plans included work/military (W), enrollment in a two-year transfer or vocational program (2Y), or enrollment in a four-year college or university that is inclusive in admissions policy (4I), selective in admissions (4S), or more selective in admissions (4MS). The four-year school classification was determined by the college or university's classification in the Carnegie Undergraduate Profile Classification Scale. Carnegie defines four-year inclusive schools (4I) as schools that "extend educational opportunity to a wide range of students with respect to academic preparation and achievement." Selective in admissions schools (4S) are schools where the average college entrance examination scores (ACT, SAT) for entering students are among the middle two-fifths of baccalaureate granting institutions. More selective schools (4MS) are schools with entering student testing averages in the top fifth of baccalaureate institutions (Carnegie Foundation, http://classifications.carnegiefoundation.org/descriptions/ undergraduate_profile.php).

The main data analysis involves an examination of how a student's mobility affects their post-secondary plans. Heck, Price & Thomas (2004) have shown that tracking and mobility affect student outcomes to the point that they not only affect individual students, but entire communities. In addition, Rosenbaum (1980) found that track placement has a definite effect on college placement, particularly at four-year institutions. Therefore, the second hypothesis for the study is that students who experience some sort of positive movement through their high school career will have higher levels of four-year college and university enrollments than their peers. This includes an examination of all students within the individual classifications as well as subgroups of students. This analysis was performed on the entire sample population only as the analysis of post-secondary outcomes by school provided less than adequate data as over one-half of data points at most schools had expected counts of less than five, meaning the sample outcomes were not varied enough to draw any meaningful conclusions.

The third and final hypothesis for the study will concern whether or not mobility rates in the different curricular areas, math and English, have differentiating effects on outcomes. Does positive/negative mobility in math result in a different outcome than positive/negative mobility in English? In studying higher education, Attewel et. Al (2006) found that students who needed to be remediated in English had less of a chance of graduating college than those who needed math remediation. When examining this in a secondary school and college admissions context one can surmise that students with lower English ability will have a more difficult time succeeding in college, meaning that the more selective colleges and universities in the study, those with 4S and 4MS

classifications, will admit and enroll a lower number of English NM students than math NM students. In addition, a study by Bozick & DeLuca (2011) on graduates who did not enroll in college after high school found one of the common characteristics of this group to be low math ability. Thus the third hypothesis is that negative movement in English will be detrimental to college options as witnessed by fewer students attending four-year institutions while negative movement in math will result in higher rates of students foregoing college for work/military options. Once again this analysis was performed on the entire sample only for the aforementioned reasons of lack of quality data due to expected counts.

A secondary unit of analysis for the case study involves the various school structures that affect initial placement, mobility, and outcomes. As some of the schools in the study vary greatly in the way that they place students, encourage or discourage mobility, and support diagonal movers, or students moving positively within a track, it is important to ascertain whether or not certain of these structures have an effect on student mobility. If mobility is a vital part of effective tracking practice then it is important to ascertain what structural elements of that practice actively promote mobility. This will be determined through an examination of the amount of student mobility that occurs in each of the schools, both overall and for the individual curriculums included in the study. This data will also be disaggregated by student subgroups. If certain practices are uncovered that promote or are detrimental to mobility, this may encourage practitioners to rethink the tracking practices of their own institutions and provide fodder for future research into this area.

CHAPTER V

DATA ANALYSIS

Once the interviews at the sites were concluded, data from individual transcripts produced from the stratified sampling method was collected. Overall the sample was very gender balanced, with 478 females and 481 males used for the study. The total number of students sampled from each school was also proportional to the overall enrollment at the schools, with the fewest amount of student coming from Alpha School and the most from Gamma School (Table 4.). The sample of underrepresented students wound up as a slightly higher percentage than the population as a whole for statistical purposes, with approximately 27% (*N*=256) of the sample consisting of underrepresented students versus 19% of the population. The sample of low-income students identified by their inclusion in the Federal Free and Reduced Lunch program was consistent with the population as a whole, approximately 23% to 22% respectively. Data collected was then entered into SPPS for analysis.

Table 4. Sample Demographic

School	# sampled	Underrepresented	Low-income
Alpha	214	27	13
Beta	243	82	53
Delta	248	76	74
Gamma	254	71	80

Total	959	256	220
%	100%	27%	23%

Data Review of Existing Literature

Before conducting an analysis of the hypotheses of the study, I examined the data to see if it confirmed some of the results of previous research into tracking practices. Oakes (2005) discovered that students of color were over-represented in the lower tracks in schools. This was also the case in this study, x^2 (2, N=959) = 53.65, p <.001, with underrepresented students overpopulating the lowest tracks of the schools and under-populating the highest tracks. To the contrary, majority students under-populate the lowest tracks and overpopulate the highest (Table 5).

Table 5. Frequency Table for Final Track Placement by Race

Race		Track			
		Basic	College Prep	Advanced	X^2
Underrepresented	Count	63	179	14	53.65
	Expected Count	34.4	183.1	38.4	
	% Within Track	48.8%	26.1%	9.7%	
Majority	Count	66	507	130	
	Expected Count	94.6	502.9	105.6	
	% Within Track	51.2%	73.9%	90.3%	

Most concerning in this data was the fact that only 14 of the 256 underrepresented students in the study completed their four-year high school career in the Advanced track at their school, well below the 38.4 expected count, while 63 of these students finished in the Basic track of their school, almost double the 34.4 expected count. The expected count is the categorical value that would be expected based on the sample and a random

distribution. The fact that these counts are significantly lower and higher than anticipated is telling of the fact that underrepresented students skew heavily towards the lowest tracks in the school. Underrepresented students comprised nearly half of the students in the lowest level track at the schools and less than 10% of students in the highest track. Conversely, majority students exceeded their expected count for completion in the Advanced track while coming in substantially under their expected count for the Basic track. Thus Oakes' (2005) results were reproduced in this study.

Also confirmed was Rosenbaum's (1980) assertion that final high school track placement has an effect on the post-secondary plans of students, x^2 (8, N=959) = 247.047, p <.001.

Table 6. Frequency Table for Post-Secondary Plan by Track

Post-Secondary Plans		Track			X^2
		Basic	College Prep	Advanced	
Work/Military	Count	27	47	5	247.047
	Expected Count	10.6	56.5	11.9	
	% Within Track	20.9%	4.9%	3.5%	
2-Year School	Count	73	155	3	
	Expected Count	31.1	165.2	34.7	
	% Within Track	56.6%	22.6%	2.1%	
4-Year Inclusive	Count	9	27	1	
	Expected Count	5.0	26.5	5.6	
	% Within Track	7.0%	3.9%	.7%	
4-Year Selective	Count	17	159	12	
	Expected Count	25.3	134.5	28.2	
	% Within	13.2%	23.2%	8.3%	

	Track			
4-Year Most Selective	Count	3	298	123
	Expected Count	57.0	303.3	63.7
	% Within Track	2.3%	43.4%	85.4%

You will recall from the Methodology section that students' final high school track placement was normed across schools by categorizing the tracks as Basic, College Prep, or Advanced as determined by the aforementioned parameters. As seen in Table 6, students in the Basic (B) track of the school attended 4-year colleges and universities at a much lower rate than expected, with only 2.3% attending a 4- year Most Selective school, while at the same time this group attended 2-year schools or no college at all at a much higher rate than expected. Conversely, students in the Advanced (A) track attended Four-Year Most Selective (4MS) schools at a much higher rate than anticipated, with 123 of the 144 students in this group, 85.4%, attending these institutions, and 92% attending a four-year college or university. Once again the expected versus actual counts in these areas are telling as to the relationship between final high school track and post-secondary placement.

The data from the study thus reaffirmed the earlier conclusions reached by Oakes (2005) and Rosenbaum (1980), with the extremes in each case telling the story. In Table 5 we see that students are equally distributed in the middle curricular track as would be expected by the population. In fact the populations and percentages line up almost perfectly with the sample itself. The problem occurs at the extremes, with our underrepresented students not surprisingly being underrepresented in the Advanced track

and overrepresented in the Basic track. Similarly, the College Prep track in Table 6 is a strong predictor of post-secondary plan while the other two tracks fail to accurately predict attendance at the most-selective post-secondary options as well as for the work/military option.

Hypothesis

As Hallinan (1994) discovered in her examination of mobility in high school curriculums, this study identified a large overall amount of mobility between tracks in the two curriculums across the four high schools. There were 516 instances of mobility overall within the sample population of 959 students (Table 7). The majority of these movements were negative movements. Negative mobility comprised 287 of the 516 movements while positive mobility accounted for 229 movements. The telling statistics lay in an examination of which curriculums the negative mobility and positive mobility took place. Of the 229 positive movements in curriculum, 171 of these occurred in English with only 58 occurring in math. Conversely, 182 of the negative movements occurred in Math with 105 of these movements in English. As a result, only 11% of the total mobility in the sample consisted of positive movements in Math, while 35% consisted of negative mobility in this curriculum. On the other hand, 33% of the mobility consisted of positive movement in English with approximately 20% consisting of negative movement in this area. It is obvious from these findings that despite school structures designed to aid in positive math mobility it was rarely taken advantage of.

Table 7. Mobility within Sample Population

Mobility	English (%)	Math (%)	Total (%)
Positive Mobility	171 (33%)	58 (11%)	229 (44%)
Negative Mobility	105 (20%)	182 (35%)	287 (56%)
Total	276 (53%)	240 (46%)	516 (100%)

The analysis of the data at the individual school level revolves around the amount of mobility seen by students as a result of the tracking structures governing each of the institutions. The previous data analysis has shown that, overall, mobility was very commonplace among the sample demographic, as seen in Table 7. There were 516 instances of mobility in the sample population. But how much of this mobility occurred at each of the individual institutions, and how might the varying school structures have affected that mobility for the subgroups in the study?

Table 8. Mobility at Alpha School

Mobility	English (%)	Math (%)	Overall (% of population)
Positive Mobility	48	15	40 (19%)
Negative Mobility	23	33	37 (17%)
Total	71	48	

Table 9. Mobility at Beta School

Mobility	English (%)	Math (%)	Overall (% of population)
Positive Mobility	23	21	22 (9%)
Negative Mobility	18	47	48 (20%)
Total	41	68	

Table 10. Mobility at Delta School

Mobility	English (%)	Math (%)	Overall (% of population)
Positive Mobility	47	23	57 (23%)
Negative Mobility	31	46	53 (21%)
Total	78	69	

Table 11. Mobility at Gamma School

Mobility	English (%)	Math (%)	Overall (% of population)
Positive Mobility	53	6	50 (20%)
Negative Mobility	33	49	60 (24%)
Total	86	55	

As with the general sample of students, mobility for three of the schools was concentrated in the English curriculum. At Beta school, however, there was substantially

more movement in math than English, and the vast majority of that movement was negative, by over a 2 to 1 margin (Table 9). The schools were consistent in the distribution of positive and negative movement through the curriculums, with each seeing more positive than negative movement in English and more negative than positive movement in math. As far as overall mobility is concerned, three of the schools saw a relative balance in positive and negative movement, with only Beta seeing a disproportionate amount of negative movement as a result of the aforementioned negative movement in the math curriculum.

The first hypothesis of the study was that underrepresented and low-income students would be over-represented in the NIL and NM groups while majority students would be overrepresented in the PM groups. The thought was that students with social and cultural capital would utilize the school structures to their own benefit as demonstrated by positive mobility while those with less of this capital, underrepresented and low-income students, would have less knowledge of how to appropriately navigate the school system as witnessed by no or negative mobility. This was not the case. Both the underrepresented group x^2 (2, N=959) = 1.87, p .392 (Table 12) and the low-income group x^2 (2, N=959) = 1.26, p .532 (Table 13) showed no tendency to move negatively at a greater rate than the majority group, nor did the majority group tend to move positively at a greater rate than the subgroups. The subgroups percentage within mobility, or what percent of each of the classifications of mobility, Nil, positive, or negative, these groups comprised, was also consistent across the classifications.

Table 12. Crosstabulation of Mobility by Race

Race		Mobility			
		Nil	Positive	Negative	X2
Underrepresented	Count	160	50	46	1.87
	Expected Count	158.3	45.1	52.6	
	% Within Mobility	27.0%	29.6%	23.4%	
Majority	Count	433	119	151	
	Expected Count	434.7	123.9	144.4	
	% Within Mobility	73.0%	70.4%	21.5%	

Table 13. Crosstabulation of Mobility by Socioeconomic Status

Socioeconomic Status		Mobility			
		Nil	Positive	Negative	X^2
Low-Income	Count	130	44	45	1.26
	Expected Count	135.4	38.6	45.0	
	% Within Mobility	21.9%	26.0%	22.8%	
Majority	Count	463	125	152	
	Expected Count	457.6	130.4	152.0	
	% Within Mobility	78.1%	74.0%	77.2%	

An examination of overall track mobility by race at the individual school level shows that there was no connection between race and mobility at Alpha school x^2 (2, N=214) = .92, p .631 (Table 14), Delta School x^2 (2, N=248) = .286, p .867 (Table 16), and Gamma School x^2 (2, N=254) = .896, p .639 (Table 17). There was, however, a significant connection between mobility and race at Beta School x^2 (2, N=243) = 10.58, p .005 (Table 15).

Table 14. Crosstabulation of Mobility by Race – Alpha School

Race		Mobility			
		Nil	Positive	Negative	X2
Underrepresented	Count	18	6	3	.922
	Expected Count	17.3	5.0	4.6	
	% Within Mobility	66.7%	22.2%	11.1%	
Majority	Count	119	34	34	
	Expected Count	119.7	35.0	32.3	
	% Within Mobility	63.6%	18.2%	18.2%	

Table 15. Crosstabulation of Mobility by Race – Beta School

Race		Mobility			
		Nil	Positive	Negative	X2
Underrepresented	Count	56	14	12	10.58
	Expected Count	58.4	7.4	16.2	
	% Within Mobility	68.3	17.1%	14.6%	
Majority	Count	117	8	36	
	Expected Count	114.6	14.6	31.8	
	% Within Mobility	63.6%	18.2%	18.2%	

Table 16. Crosstabulation of Mobility by Race – Delta School

Race		Mobility			
		Nil	Positive	Negative	X2
Underrepresented	Count	43	16	17	.286
	Expected Count	42.6	17.5	15.9	
	% Within Mobility	56.6%	21.1%	22.4%	
Majority	Count	96	41	35	
	Expected Count	96.4	39.5	36.1	
	% Within Mobility	55.8%	23.8%	20.3%	

Table 17. Crosstabulation of Mobility by Race – Gamma School

Race		Mobility			
		Nil	Positive	Negative	X2
Underrepresented	Count	43	14	14	.857
	Expected Count	40.3	14.0	16.8	
	% Within Mobility	56.6%	21.1%	22.4%	
Majority	Count	101	36	46	
	Expected Count	103.7	36.0	43.2	
	% Within Mobility	55.2%	19.7%	25.1%	

An analysis of overall track mobility in the individual schools by socioeconomic status also found no significant connection between income and track mobility for Alpha School x^2 (2, N=214) = .847, p .651 (Table 18), Beta School x^2 (2, N=243) = 3.495, p .174 (Table 19), and Gamma School x^2 (2, N=254) = 4.031, p .133 (Table 21). There was, however, a marginal differentiation between mobility and socioeconomic status at Delta School x^2 (2, N=248) = 5.338, p .069 (Table 20).

Table 18. Crosstabulation of Mobility by Socioeconomic Status – Alpha School

Socioeconomic Status		Mobility			
		Nil	Positive	Negative	X2
Low-income	Count	9	2	1	.286
	Expected Count	7.7	2.2	2.1	
	% Within Mobility	75.0%	16.7%	8.3%	
Majority	Count	128	38	36	
	Expected Count	129.3	37.8	34.9	
	% Within Mobility	63.4%	18.8%	17.8%	

Table 19. Crosstabulation of Mobility by Socioeconomic Status – Beta School

Socioeconomic Status		Mobility			
		Nil	Positive	Negative	X2
Low-income	Count	37	8	8	3.495
	Expected Count	37.7	4.8	10.5	
	% Within Mobility	69.8%	15.1%	15.1%	
Majority	Count	136	14	40	
	Expected Count	135.3	17.2	37.5	
	% Within Mobility	71.6%	7.4%	21.1%	

Table 20. Crosstabulation of Mobility by Socioeconomic Status – Delta School

Socioeconomic Status		Mobility			
		Nil	Positive	Negative	X2
Low-income	Count	36	24	14	5.338
	Expected Count	41.5	17.0	15.5	
	% Within Mobility	48.6%	32.4%	18.9%	
Majority	Count	103	33	38	
	Expected Count	97.5	40.0	36.5	
	% Within Mobility	59.2%	19.0%	21.8%	

Table 21. Crosstabulation of Mobility by Socioeconomic Status – Gamma School

Socioeconomic Status		Mobility			
		Nil	Positive	Negative	X2
Low-income	Count	48	10	22	4.031
	Expected Count	45.4	15.7	18.9	
	% Within Mobility	60.0%	12.5%	27.5%	
Majority	Count	96	40	38	
	Expected Count	98.6	34.3	41.1	
	% Within Mobility	55.2%	23.0%	21.8%	

The second hypothesis for the study was that students that experience positive movement at some point in their high school career in one of the curriculums, be it English or math, will have higher levels of four-year college and university enrollment than their peers. This was tested by examining mobility and post-secondary plans for underrepresented, low-income, and majority students. For these analysis', one of the data cells has fewer than five expected data points on a few occasions as a result of the Carnegie Undergraduate Profile Classification Scale. The Carnegie Classification of 4-year inclusive (4I) schools is a rare classification in the Carnegie Scale as witnessed by less than 4% of the students in the sample attending one of these schools. These schools are generally comprised of academically open admission schools such as art and technical schools, large public universities that service mostly commuter students, etc. (Carnegie Foundation, http://classifications.carnegiefoundation.org/descriptions/undergraduate_ profile.php). As such, they represent an important and very different type of post-secondary plan. So though the expected count on this cell occasionally falls under 5, I felt it important to keep this data intact. Combining these students with students from one of the other four-year cells may have skewed the data in these other cells.

I also failed to reject the null hypothesis for the second alternative hypothesis for underrepresented students x^2 (8, N=256) = 5.294, p .726 or majority students x^2 (8, N=703) = 4.428, p .817 as seen in Tables 22 & 23. Underrepresented students who were positive movers were just as likely to attend a 2-year school or choose the work/military route (52%) as they were to attend a four-year institution (48%). These percentages were not significantly different than the students who saw nil or negative movement.

Table 22. Crosstabulation of Mobility and Post-Secondary Plans for Underrepresented Students

Post-Secondary Plans		Mobility			
		Nil	Positive	Negative	X^2
Work/Military	Count	17	5	8	5.294
	Expected Count	18.8	5.9	5.4	
	% Within Mobility	10.6%	10.0%	17.4%	
2-Year School	Count	63	21	18	
	Expected Count	63.8	19.9	18.3	
	% Within Mobility	39.4%	42.0%	39.1%	
4-Year Inclusive	Count	9	1	3	
	Expected Count	8.1	2.5	2.3	
	% Within Track	5.6%	2.0%	6.5%	
4-Year Selective	Count	33	14	10	
	Expected Count	35.6	11.1	10.2	
	% Within Track	20.6%	28.0%	21.7%	
4-Year Most Selective	Count	38	9	7	
	Expected Count	33.8	10.5	9.7	
	% Within Track	23.8%	18.0%	15.2%	

Table 23. Crosstabulation of Mobility and Post-Secondary Plans for Majority Students

Post-Secondary Plans		Mobility			
		Nil	Positive	Negative	X^2
Work/Military	Count	31	6	12	4.428
	Expected Count	30.2	8.3	10.5	
	% Within Mobility	7.2%	5.0%	7.9%	
2-Year School	Count	72	25	32	
	Expected Count	79.5	21.8	27.7	
	% Within Mobility	16.6%	21.0%	21.2%	
4-Year Inclusive	Count	14	3	7	
	Expected Count	14.8	4.1	5.2	
	% Within Mobility	3.2%	2.5%	4.6%	
4-Year Selective	Count	82	22	27	
	Expected Count	80.7	22.2	28.1	
	% Within Mobility	18.9%	18.5%	17.9%	
4-Year Most Selective	Count	234	63	73	
	Expected Count	227.9	62.6	79.5	
	% Within Mobility	54.0%	52.9%	48.3%	

Low-income students also presented no differences between mobility and post-secondary plans x^2 (8, N=219) = 8.577, p .379 (Table 24), nor did the majority population for the income group x^2 (8, N=740) = 4.722, p. 787 (Table 25).

Table 24. Crosstabulation of Mobility and Post-Secondary Plans for Low-income Students

Post-Secondary Plans		Mobility			
		Nil	Positive	Negative	X^2
Work/Military	Count	18	3	6	8.58
	Expected Count	16.0	5.4	5.5	
	% Within Mobility	13.8%	6.8%	13.3%	
2-Year School	Count	51	17	23	
	Expected Count	54.0	18.3	18.7	
	% Within Mobility	39.2%	38.6%	51.1%	
4-Year Inclusive	Count	8	2	5	
	Expected Count	8.9	3.0	3.1	
	% Within Mobility	6.2%	4.5%	11.1%	
4-Year Selective	Count	29	13	5	
	Expected Count	27.9	9.4	9.7	
	% Within Mobility	22.3%	29.5%	11.1%	
4-Year Most Selective	Count	24	9	6	
	Expected Count	23.2	7.8	8.0	
	% Within Mobility	18.5%	20.5%	13.3%	

Table 25. Crosstabulation of Mobility and Post-Secondary Plans for Non Low-income Students

Post-Secondary Plans		Mobility			
		Nil	Positive	Negative	X^2
Work/Military	Count	30	8	14	4.72
	Expected Count	32.5	8.8	10.7	
	% Within Mobility	6.5%	6.4%	9.2%	
2-Year School	Count	84	29	27	
	Expected Count	87.6	23.6	28.8	
	% Within Mobility	18.1%	23.2%	17.8%	
4-Year Inclusive	Count	15	2	5	
	Expected Count	13.8	3.7	4.5	
	% Within Mobility	3.2%	1.6%	3.3%	
4-Year Selective	Count	86	23	32	
	Expected Count	88.2	23.8	29.0	

	% Within Mobility	18.6%	18.4%	21.1%
4-Year Most Selective	Count	248	63	74
	Expected Count	240.9	65.0	79.1
	% Within Mobility	53.5%	50.4%	48.6%

The third alternative hypothesis tested in the study is two-fold. This hypothesis examined whether or not particular kinds of mobility in the specific curricular areas had an effect on the Post-Secondary Plans of the students in the study. In particular, I looked at how negative movement might affect those plans. The first part concerned negative movement in English. As a result of work by Attewel et. Al (2006) I hypothesized that negative movement between tracks in English would be detrimental to college options as witnessed by fewer of these students attending four-year institutions. The second part concerned negative movement in math. Bozick & DeLuca's (2011) look at college going rates and math ability led me to hypothesize that negative movement in math would result in higher rates of students foregoing college for work/military options.

Table 26. Crosstabulation of English Mobility and Post-Secondary Plans

Post-Secondary Plans		English Mobility			
		Nil	Positive	Negative	X^2
Work/Military	Count	67	3	9	21.407
	Expected Count	62.9	10.7	5.4	
	Std. Residual	.5	-2.4	1.6	
2-Year School	Count	174	34	23	
	Expected Count	184.0	31.3	15.7	
	Std. Residual	-.7	.5	1.9	
4-Year Inclusive	Count	32	2	3	
	Expected Count	29.5	5.0	2.5	
	Std. Residual	.5	-1.3	.3	
4-Year Selective	Count	147	27	14	
	Expected Count	149.8	25.5	12.7	
	Std. Residual	-.2	.3	.4	
4-Year Most Selective	Count	344	64	16	
	Expected Count	337.8	57.5	28.7	
	Std. Residual	.3	.9	-2.4	

There were differences in movement in English and post-secondary plans x^2 (8, N=959) = 21.407, p .006. For students who were negative movers in English more of these students attended 2-year colleges than expected and less attended four-year colleges than expected. In addition, the data shows that more of these students forego college all together for work/military options. The standard residual, or the deviation between the values observed and the values that are predicted, also demonstrate this. We can then reject the null hypothesis in this instance as negative movement in English mobility is shown to differentiate student Post-Secondary plans.

The second part of the third hypothesis involved examining negative movement in math and its relation to the Post-Secondary plans of students. There was a marginal differences between the Post-Secondary Plans of students and Math Mobility x^2 (8, N=959) = 13.717, p .089. An examination of Table 27 shows a huge amount of negative movement in math, over four times the amount of positive movement in that curriculum. Interestingly though, the association between Math Mobility and the Post-Secondary plans of students seems to have more of an effect on the positive movers than the negative ones. Positive movers actually chose work/military options at a higher rate than anticipated and attended the Four-year Most Selective colleges at a lower rate than anticipated. As a result of the crosstabulation of Math Mobility and Post-Secondary Plans we can say that though there appears to be a marginal difference between the two, the null hypothesis was not proven as the difference exists for positive movers, not negative ones as I had hypothesized.

Table 27. Crosstabulation of Math Mobility and Post-Secondary Plans

Post-Secondary Plans		Math Mobility			
		Nil	Positive	Negative	X^2
Work/Military	Count	55	8	16	13.717
	Expected Count	61.6	3.3	14.1	
	Std. Residual	-.8	2.6	.5	
2-Year School	Count	182	9	40	
	Expected Count	180.2	9.6	41.2	
	Std. Residual	.1	-.2	-.2	
4-Year Inclusive	Count	27	2	8	
	Expected Count	28.9	1.5	6.6	
	Std. Residual	-.3	.4	.5	
4-Year Selective	Count	142	11	35	
	Expected Count	146.6	7.8	33.5	
	Std. Residual	-.4	1.1	.3	
4-Year Most Selective	Count	342	10	72	
	Expected Count	330.7	17.7	75.6	
	Std. Residual	.6	-1.8	-.4	

CHAPTER VI

DISCUSSION

Though I was unable to reject the null hypothesis for two of the three proffered, I felt that this study was a success in uncovering structural patterns in schools that effect students and their outcomes. The fact that the study reproduced the results of Oakes (2005) and Rosenbaum (1980) shows that school structures such as curricular offerings and tracking do indeed have an influence on the post-secondary plans of their students. In addition to underrepresented students, I also found a significant connection between income level and track placement x^2 (2, N=959) = 43.119, p <.001. The fact that a student's final overall track has a significant effect on their post-secondary plan is telling. When we combine this understanding with the fact that underrepresented and low-income students are overrepresented in the lowest tracks of the school and underrepresented in the highest, we can see that the varying school structures, be it initial placement, curricular options, academic guidance and counseling, or others, can work in concert to effect the post-secondary plans of the students in the school.

Mobility, then, is a key component to providing equal educational opportunities to all students. If student outcomes are so heavily dependent on track placement then students must be offered the ability to move tracks during high school in order to better their post-secondary options. The first hypothesis addressed the idea that majority students with social and cultural capital would utilize school structures by using positive mobility in the curricular areas to improve their academics, track, and ultimately post-

secondary plan. Conversely, I hypothesized that underrepresented and low-income students, those without the same social and cultural capital, would fail to use the mobility offered by the schools and would be overrepresented in the Nil and Negative groups. I was not able to find a significant connection between mobility and the underrepresented, low-income, and majority groups. In examining the data, however, I discovered that one of the reasons for this may be that the majority students use their social and cultural capital in other ways, in this case to move negatively instead of positively. In other words, on occasion they chose to move down a track in a curricular area in order to increase their ability to do well in that subject.

This can be seen most evidently in the overall track movements displayed in Table 7. The largest amount of mobility occurred in math and consisted of negative mobility. In my counselor interviews I heard over and over again about the "gamesmanship" of students in regards to their curriculum. Counselors at three of the four schools, Alpha, Beta, and Delta, made comments about the amount of strategy that some students and families put into their course selection and four-year planning. The lone school where this was not identified, Gamma school, has a very different process for initial track placement that consists on one-on-one intake meetings with counselors and the families of 8th graders prior to initial enrollment. In addition, mobility at Gamma school is accepted and encouraged, so the environment of the school itself and the structures they have established for initial placement and mobility may prevent the type of gamesmanship that was described at the other schools. In spite of Gamma's efforts, however, that gamesmanship played out in the data. Though there was no significant connection between the various student groups and mobility, there was between Track

and Mobility x^2 (4, N=959) = 29.802, p <.001. In fact, students who finished in the highest track of the school experienced negative movement in their curriculum at a higher rate than students who finished in the lowest track (Table 28).

In inputting the data I made note of two patterns within Negative Mobility that occurred over and over again across schools. In the English curriculum I noted students in the Advanced track avoiding the more difficult Advanced Placement (AP) English courses offered at the school in the junior and senior years. Some students would simply avoid the AP classes all together, while some would only take one of the offered two-year sequence. A counselor at Alpha School identified this as a common practice due to the "perceived workload in AP courses." Similarly, I noticed a pattern of students in the Advanced math track moving negatively. Students who were enrolled in the advanced track would also either avoid the AP coursework all together, choosing to enroll in a regular Calculus or Statistics class, or would move down to the easier AP Calculus AB course from the BC course. The difference between these two classes is significant as the AB class covers one semester of college-level Calculus over the year while the BC Calculus class covers two. In looking back at my notes one counselor at Delta School specifically mentioned this movement as part of the strategies their majority students employ when deciding on their schedule and four-year plan.

A look at this data suggests that majority students may be using their social and cultural capital effectively within the structures of the school, just not in the way that I had hypothesized. Instead of using strictly positive movement to affect their post-secondary plans, they may be using a combination of positive and negative movements to affect their overall curriculum as part of a strategy designed to utilize Honors, AP and

other more rigorous, grade-weighted courses for post-secondary planning purposes. As we know, underrepresented and low-income students are woefully underrepresented in the highest tracks of the schools and overrepresented in the lowest tracks. Students in the Advanced track not only saw a higher amount of positive movement as would be expected and as I had hypothesized, but also a higher percentage of negative movement than students in the Basic track. The expected count for negative movers in the Advanced track was 29.6, yet 44 had Negative Mobility. The expected count for Positive Mobility was 25.4 and 35 moved positively (Table 28). Students in the Basic track also moved negatively at a greater rate than expected, with 37 negative movers from an expected count of 26.5, but they also moved positively at a lower rate than expected with only 16 positive movers out of an expected count of 22.7.

Table 28. Mobility by Track

Track		Mobility			
		NIL	Positive	Negative	Total
Basic	Count	76	16	37	129
	Expected Count	79.8	22.7	26.5	129.0
	% within Track	58.9%	12.4%	28.7%	100.0%
	% within Mobility	12.8%	9.5%	18.8%	13.5%
	% of Total	7.9%	1.7%	3.9%	13.5%
	Std. Residual	-.4	-1.4	2.0	
College Prep	Count	452	118	116	686
	Expected Count	424.2	120.9	140.9	686.0
	% within Track	65.9%	17.2%	16.9%	100.0%
	% within Mobility	76.2%	69.8%	58.9%	71.5%
	% of Total	47.1%	12.3%	12.1%	71.5%
	Std. Residual	1.4	-.3	-2.1	

Advanced	Count	65	35	44	144
	Expected Count	89.0	25.4	29.6	144.0
	% within Track	45.1%	24.3%	30.6%	100.0%
	% within Mobility	11.0%	20.7%	22.3%	15.0%
	% of Total	6.8%	3.6%	4.6%	15.0%
	Std. Residual	-2.5	1.9	2.7	
Total	Count	593	169	197	959
	Expected Count	593.0	169.0	197.0	959.0
	% within Track	61.8%	17.6%	20.5%	100.0%
	% within Mobiliy	100.0%	100.0%	100.0%	100.0%
	% of Total	61.8%	17.6%	20.5%	100.0%

Counselors at Beta and Gamma schools talked about their perceived importance in the role of guiding non-majority students in the course selection and four-year planning process, a majority of which are in the Basic track of their respective school. A counselor at Alpha School where the largest "minority" consists of low-income students noted that "Socioeconomic status has a huge impact on parental involvement and advocacy…I pick up the role of the parent [for the low-income students], strategizing course choices and loads based on future plans." A counselor at Beta mentioned that she "had to work hard in order not to bypass students and their abilities as a result of external factors and first impression." In essence she feels like she has to push herself to not assume that a low-income or minority student should be at a certain level academically. A look at the individual school data suggests that counselors at Beta School may be working effectively to this end as underrepresented students moved positively through the curriculum at more than twice the rate expected (Table 15) while at the same time majority students at Beta moved positively through the curriculum at a much lower rate than expected. Finally, in regards to course placement and mobility, a counselor at

Gamma school simply noted that when it comes to course selection and placement, "the squeaky wheel gets the grease."

I heard something along the lines of this last statement at each of the school sites I visited. Counselors had the general impression that students and parents with the social and cultural capital to know what to push for, and how hot to push for it, in regards to desired curriculum for the student got what they wanted; sometimes to the student's benefit, and sometimes to their disadvantage. However, an examination of the mobility data by school did not indicate that this was the case. There was no connection between mobility and race at three of the four schools or mobility and income level at three of the four. At the two schools where subgroups did move more or less than expected, Beta by race and Delta by income, the pattern was the same. The underrepresented and low-income students moved positively at a greater rate than expected and the majority students moved negatively at a greater rate.

Counselor comments lead us to the conclusion that majority students and families in the upper academic ranges of the schools utilize mobility patterns effectively as way to maximize their chances for optimal post-secondary options, though not nearly at the rate that they perceive this to happen. On the other hand, underrepresented and low-income students seem to rely on school personnel to assist them with curricular choices, be it a school counselor or caring teacher who saw some academic potential in a student and recommended him or her for diagonal movement in a curriculum. This puts an enormous amount of pressure on counselors and other school personnel as witnessed by a number of counselor statements to this effect. The schools in this study were fortunate enough to be high resource schools with counselor caseloads in the 250-350 range depending on the

school. This is not the case for most schools. For example, the average counselor case load in the State of Illinois is 690 students, fifth worst on the country, and many of these schools have much higher rates of underrepresented and low-income students (Chicago Tribune, 2009). It is unreasonable to think that counselors can be in tune to the individual academic needs of these students when they also have to be concerned with graduation requirements, social and emotional issues, truancy, and a variety of day-to-day issues that consume their time. However, Heck et al. (2004) have found that effective counseling practice can mitigate some of the negative effects of tracking practices, there is no reason to think that mobility could not be understood as an integral part of that process.

The second hypothesis for the study concerned students who experienced positive movement through their high school career and their attendance at four-year colleges and universities. Once again I failed to prove the null hypothesis. This result was surprising to me. It is logical to think that students who advance in their curriculums in one of the two subjects known to be important to college success like math and English (Attewel et. Al, 2006; Bozick & DeLuca, 2011) would produce better outcomes, as witnessed by attendance at four-year schools as opposed to two-year, than those who failed to advance. This was not the case.

However, in reflecting on the parameters of the study itself there may be more to this. Though there was no difference in the percentages of students attending four-year versus two-year schools as classified by the Carnegie Undergraduate Profile Classification Scale, the scale itself has its own problems in regards to the classification of four-year schools. Namely, the scale uses college admissions test scores as a way to

decide which of the four-year schools in the classification system are Inclusive (4I) versus Selective (4S) versus Most Selective (4MS). The problem with the Most Selective group lies in the great range of actual selectivity rates of the schools in that classification when it comes to undergraduate admissions. For example, Illinois State University is considered a 4MS school on the Carnegie Scale. So is Harvard University. Not to disparage Illinois State, it is a fine school that produces many successful graduates, but how many people would classify that school in the same group as Harvard? Illinois State University has an undergraduate admissions selectivity rate of 63%; Harvard's is 6% (College Board, 2012). When we look to classify schools by undergraduate admissions selectivity the numbers may tell a different story. Though mobility rates did not affect whether or not a student went to a 2-yr school versus a 4-yr school, mobility may have affected the type of four-year school the student attends.

The third hypothesis did uncover some differentiation between post-secondary plans and mobility in the specific curricular areas, as opposed to overall curriculum. Students that were negative movers in English did enroll in 4–year colleges and universities at a lower rate than expected while also enrolling in 2-year colleges, or foregoing post-secondary education, at a higher rate. This telling finding should be of great concern to educators in the field. The schools in this study go to great pains in providing their lowest achieving students in English supplementary course work in English. While whether the school had formal or informal tracks in the English curriculum in freshman and/or sophomore year varied a bit from school to school, what did not vary was the fact that each one of the schools had some sort of extra developmental reading course that was offered to students who were identified early on

as being in need of extra assistance in this area. The schools took great care to ensure those with weak reading skills received supplemental instruction in this area. However, if a student started in the Basic track in this subject and remained in it throughout his or her high school career, or even if he or she moved up a level in English only to move back down, the student would not have Negative Mobility in this area, it would be Nil.

This means that for this particular finding the students of concern are not the students who begin in the Basic track of the school. Rather, it is the students who begin at the College Prep or Advanced levels and are perhaps misplaced. The parameters of the study indicate that these are the only students who could have Negative Mobility in English. This raises a couple of concerns. First and foremost, the initial placement is vital. Students who require the remediation and extra support provided by an additional Reading or skills class must be appropriately identified and placed. Failure to do so may have serious consequences. As opposed to some of the other subject areas at a high school, reading and English skills permeate the entire curriculum. Effective skill in this area matters in the Social Sciences, Language Arts, Sciences, and even Mathematics. It is no wonder that students who experience negative movement in this area struggle in school and choose 2-year or work/military options at a higher rate than anticipated.

The second concern this highlights goes back to the "squeaky wheel" that gets the grease. In many ways it is good practice to allow students and parents to have a say in their course selection and curriculum, though Heck et al. (2004) found no relationship between student choice and effective tracking practices. However, some times this freedom of choice can work to the student's disadvantage. Counselors at Beta School reported a great deal of perceived pressure on students in regards to their class placement.

In many cases, students and parents chose course plans based not on previous performance and recommendations but on where they thought they should be, where their friends were, etc. Whether the pressure was peer, parent, or self-imposed, many of these students are initially misplaced. Counselors at Alpha and Beta schools both remarked on the perceptions of students and families in regards to the freshman year English courses that are coupled with a developmental Reading Course. The presence of a large number of special education students in this class at Alpha and of a significant amount of "brown and black" students in this course at Beta caused many students and parents to override the initial Basic track placement in lieu of a standard College Prep course. One might surmise that these are the students who regularly see negative movement in English and may have their post-secondary plans negatively affected. As a result, it is vital that school administrators and counselors put structures into place to ensure that students are receiving, and accepting, appropriate English placement freshman year.

The third hypothesis also uncovered some marginal connections between mobility in math and college attendance. I had originally hypothesized that negative movement in math would result in more of these students foregoing college options for work/military as a result of work by Bozick & DeLuca (2011). This was not the case. Instead, those with Positive Mobility actually chose work/military options at a higher rate than anticipated and attended the Four-year Most Selective colleges at a lower rate. Students who experienced Negative Mobility chose all Post-Secondary Options at the expected rate. A look at the data shows that despite the best efforts of the schools, many of which had summer bridge programs to encourage and support students to be move positively through the math curriculum, very few did. Of the total amount of students who saw any

type of overall mobility in math through their four years, 211, only 19% of this mobility was positive. The overwhelming percentage of students who experienced mobility in math was negative movers, 81%. Once again, the group that moved the most by percentage of the population was those in the Advanced track of the school. Considering that these students overwhelmingly attend 4-year institutions, it is no wonder that negative mobility had little association with 4-year attendance. This also speaks once again to the "gamesmanship" of students in the highest tracks of school in regards to their curriculum. The negative movement of this group of students obviously skewed the data.

The surprising result of this portion of the third hypothesis was the fact that positive movers were actually the ones that attended certain types of post-secondary plans at a lower rate than expected. When comparing Math Mobility to Track in high school, one might understand why (Table 29).

Table 29. Math Mobility by Track

Math Mobility		Track		
		Basic	College Prep	Adv.
Nil	Count	93	557	98
	Expected Count	100.6	535.1	112.3
Positive	Count	4	33	3
	Expected Count	5.4	28.6	6.0
Negative	Count	32	96	43
	Expected Count	23.0	122.3	25.7

The only Track that exceeded the Expected Count for Positive Mobility in math was students in the College Prep Track. The majority of students that experienced Positive Mobility in math and wound up completing their high school career in the College Prep Track had to have moved up from an original placement in the Basic Track.

This is reaffirmed by the fact that positive movers from the College Prep Track also attended the 4-Year Most Selective colleges at a lower rate than expected. Though these students finished in the same College Prep Track as their peers in that track, their math skills and overall curriculum were not as strong. As a result they attended college and the 4-Year Most Selective colleges at a lower rate than one would expect considering they had moved positively through the curriculum.

In regards to school structures that affect the mobility of the students they serve, the statistics seem to indicate that most of these structures do not have much of an effect on overall mobility. Mobility was commonplace across schools and was for the most part similar at each of the institutions regardless of their tracking practices. Overall patterns of mobility were consistent between Beta, Delta, and Gamma Schools, which actively encourage diagonal movement and mobility and support students who choose to move through summer bridge courses, and Alpha School, which offers no bridge courses and actively discourages mobility. They were also relatively consistent within the individual curriculums. There also seems to be no differences in mobility in regards to points of entry to the curriculums, how students are initially placed, or whether or not there was any consequence to a student/parent override of a placement.

There were two exceptions. The first was at Beta School in the English curriculum. All of the schools in the study saw the majority of their positive movement in English and saw more positive than negative movement in that area. In fact, Alpha, Delta, and Gamma schools each saw at least 50% more positive movement than negative in English (Tables 8, 10, & 11). Beta School, while still seeing more positive than negative movement, only saw 22% more positive than negative movement (Table 9). In

examining the differences between Beta School and the others in regards to tracking practices in the English curriculum, one notices two main differences. First, English classes at Beta School are officially tracked during sophomore, junior, and senior years, with the counselors at Beta asserting that in practice English is also tracked in freshman year. Alpha School only tracks junior and senior year and Delta and Gamma Schools track all four years in English. Second, two of the other schools, Delta and Gamma, offer summer bridge courses for students wishing to move up in the English curriculum. Not only did Beta see less positive movement compared to negative than the other three schools, it also saw substantially less positive movement across the population there in comparison to the other schools. Less than 10% of students at Beta move positively through the English curriculum during their four years of high school as compared to 22%, 19%, and 21% at Alpha, Beta, and Gamma schools respectively. It seems then that Beta's practice of tracking English courses all four years without offering a summer bridge course discourages students from moving positively in the English curriculum.

The second exception concerned math mobility at Gamma School. Gamma School saw a remarkably low amount of positive movement in math with only 6 instances of positive movement among the sample of 254 students, comprising just 2% of students as compared to the consistency of the other schools that experienced between 7-9% (Tables 8-11). This was the case despite the fact that Gamma School actively encourages positive movement and offers summer bridge courses to assist those who choose to do so. The overall structure of the math curriculums and tracking practices at Gamma are similar to the other schools. The main difference between the schools lay in the way students are initially placed. Gamma is the only schools to offer an intake

meeting with students and parents as part of the initial placement process. It is at this meeting that Explore Scores and teacher recommendations are discussed with families in an effort to help them gain an understanding as to why a particular placement has been made and what placement options exist. Counselors at Gamma specifically expressed the value of this meeting with helping students and families understand why a particular placement has been made. It therefore seems logical to suggest that students find their initial placement to be satisfactory and thus tend to move positively less than students at the other schools in the study. In other words, the "squeaky wheel" is greased with information that guides them throughout their time at Gamma in regards to the courses they select in the math curriculum. The fact that Gamma is consistent with the other schools in regards to negative movement in the math curriculum, with each school seeing between 16-20% of their students experiencing negative mobility in math, also speaks to this. Students and parents are simply comfortable with their math placement as a result of the conversations with the counselor upon initial placement.

CHAPTER VII

CONCLUSIONS

The educational achievement gap that exists in the United States between races and socioeconomic backgrounds should be of major societal concern. After close to twenty years of consistent improvements the gap between Whites and African-Americans has stretched to at least 0.80 standard deviations, with some studies uncovering even larger disparities. Hispanics have seen less of a gap than their African-American counterparts, but are also seeing that gap widen or remain static (Camara & Schmidt, 1999; Phillips et al., 1998). This gap has coincided with similar trends in college entrance examinations and college attendance, maintaining the status of African-American and Hispanic students as underrepresented groups in regards to higher education. These trends have forced a renewed focus on the causes of the achievement gap and the cultural, economic, and educational factors that may be the cause.

The achievement gap is also one of the many factors contributing to the widening disparities in income and wealth that has produced the growing gap in the United States between the "haves" and the "have-nots". The educational system of the United States, from pre-school to professional school, is structured in such a way that the race is essentially fixed, those with the cultural, social, and economic capital to take advantage of the system tend to while others face great challenges in doing so. This is especially evident in the differences in educational attainment between races and classes. From an educational perspective, the myth of America as a meritocracy is just that, a myth. In the

race for limited resources, the entire educational system is designed for those that have to out-compete those that do not (Michaels, 2006). This allows the dominant classes that structure the system to maintain hegemony and perpetuate the status quo.

Unfortunately, the very institutions that in theory should work to provide the structures for the meritocracy, schools, fail to do so. Varying school structures, such as tracking in high school, work in concert to ensure those "haves" will consistently out-perform the "have-nots." Tracking consists of a series of loosely connected school structures such as placement, class sizes, curriculums, and teacher assignments (Garet & DeLany, 1988). These structures work in concert to establish the tracks of the school and determine student outcomes in significant ways. As a result, students that are underrepresented in higher education and/or from low-income households are woefully underrepresented in the highest tracks of schools and overrepresented in the lowest. When one considers the relationship between track placement and post-secondary options, it is easy to understand why these students are underrepresented in higher education. In a country where "success", personal, professional, economic, is so tied to educational attainment, this one school structure goes a long way in maintaining the system and the outcomes it produces, further ensuring that the underrepresented will remain so. Despite the fact that many studies have uncovered the inequities that tracking produces, the practice persists as a result of a confluence of social, educational, and economic factors. If tracking is to remain a common practice, research must uncover ways to eliminate or minimize its damaging effects.

Oakes (2005) has identified five common characteristics of tracking practice. One of these characteristics, mobility, does speak to the idea of the meritocracy and on

the surface seems to be a way to lessen some of the negative consequences of this practice. Mobility concerns the ability of students to move between tracks at their school based on performance. Students who perform should be able to move tracks within a curriculum with the idea that movement to more rigorous coursework would provide access to a higher track within the school and, consequently, to greater educational opportunities down the road. This study has shown that this is not the case. In fact, this study has demonstrated that those in the highest tracks of the school, the ones with the most educational capital, actually use negative mobility effectively as a way to manage their education and maximize outcomes. If mobility, the lone meritorious element of tracking, cannot level the playing field somewhat, it is questionable as to what tracking practices can.

This study has serious implications for policy and practice that are further outlined below. Since tracking in practice is a result of various school structures, it is something that needs to be addressed from a variety of perspectives within educational institutions. Administrators, teachers, and counselors all have a hand in this. No one body in the school can adequately address this concern. In addition, the high school itself needs to work toward greater articulation with their feeder schools to ensure that all of the students those schools are producing are ready for the academic rigors of the high school curriculum. For years, educators have claimed that the factors that go into the development of the achievement gap are out of their control. Things such as lack of parental involvement, resources, and motivation have been cited as the main obstacles to closing the gap. These factors can and do affect student achievement. However, educational factors that are completely within the control of schools, such as tracking

practices, also play a role in the formation of this gap. It is up to educational professionals to acknowledge this fact and move forward in whatever way possible to minimize the effects of their institutions on student outcomes and the achievement gap.

Limitations and Areas for Future Research

The main limitation in regards to the study involves the effects of choice on mobility. Though Heck et al. (2004) found that choice does not have an effect on tracking practices, it has an enormous effect on something like mobility. Students choose whether or not to move positively or negatively for a variety of reasons, including some of the strategies employed by students in the Advanced track in regards to four-year academic planning that were uncovered in this study. Things such as the desire to be in classes with students from similar ethnic, racial, and socioeconomic backgrounds (Yonezawa, Wells, & Serna, 2002) and whether or not a school has a strong tradition of mobility that might encourage a student to take a chance at a higher level course are factors that influence the choices of students.

This choice variable also plays out in regards to post-secondary plans of students. Students choose to go to colleges for a variety of reasons. Some students who might otherwise be academically prepared for attendance at a 4-year college or university may choose a 2-year school due to factors such as cost, family circumstances, or a need/desire to stay at home for the first couple of years of schooling. The choice of a 2-year school may also be very appropriate for the student based on major choice and career plans. For example, a 2-year nursing program at a local community college may actually be more difficult to be admitted to than some of the 4MS schools in the study. The student thus attended a 2-year instead of a 4-year but may be in a more appropriate and perhaps more

selective program. A student also might simply choose to forego college all together for some of these same reasons. As much as educators, and college counselors like myself especially, want everyone to go to college, school simply is not for everyone. The fact that a student does not choose college does not have to be seen as a negative if he/she has some other viable option they are pursuing. The final aspect of the choice variable is motivation. Some students are simply not motivated to do well in their studies and may experience Negative Mobility as a result, while others may be good students who simply choose not to move levels to the more difficult classes so forego a chance at Positive Mobility.

All of these factors surrounding choice limit the findings of this or any other quantitative type of study that seeks to examine mobility. An area for future research may then be some sort of mixed-methods or qualitative study that examines why students do or do not move. For example, when looking at this study and the students from the Advanced track who experienced Negative Mobility, it would be informative to find out their motivations for such movements. This might further assist practitioners in understanding why majority students behave one way and underrepresented students another and may further understanding as to what gaps in knowledge need to be filled for the less fortunate of the system. This may be particularly appropriate knowledge for the guidance counselors who act as surrogate parents in many ways to the underrepresented and low-income students of the schools.

Earlier I examined possible connections between track and mobility. The students in the highest tracks had the highest percentages of both positive and negative movements. An area for future research may then be looking at the types of 4-year

schools that these students attend on a rating scale other than the Carnegie Undergraduate Profile Classification Scale. It would be interesting to see if the mobility of students in the Advanced track affected the type of college or university attended when those schools are classified by some other sort of selectivity measure, such as the undergraduate admission selectivity rate. Moller et al. (2011) found that student achievement in high school can have some effect on the selectivity of the college attended for certain subgroups. Though selectivity is also an imperfect way to judge the quality of the school, it does speak to the difficulty of being admitted to that institution. The same could be said for underrepresented groups that experience Positive Mobility and attend a 4MS. Does their mobility allow them to attend a more selective college or university? Research could thus focus on mobility and its association with attending institutions with different levels of selectivity. This may be a way to uncover the effects of the aforementioned "gamesmanship" of students in the process as well as ascertain if Positive Mobility helps underrepresented groups achieve at a higher level in regards to the selectivity of the institution attended. Would positive movers see a positive effect and negative movers a negative effect in this instance? Perhaps. It would be interesting to find out for sure.

Another limitation of the study and area for future research involves some of the school structures that affect student curriculums and outcomes. Garet & DeLany (1988) found that tracking practices occur as a result of loosely connected school structures working in concert. For example, Beta School's lack of positive English mobility may be related to their heavily tracked English curriculum and lack of summer bridge courses to support diagonal movers in this curriculum. Gamma School used initial intake meetings

as a way to advise students and parents as to their appropriate initial track placement which may have resulted in less positive movement in the math curriculum. This study examined the students themselves and how they advanced through the curriculum at their respective high schools while also examining the schools and how the various factors in regards to initial student placement, number of possible tracks upon entrance, ease of diagonal movement, counseling practices, etc. might affect mobility and ultimately post-secondary planning. However, this was done in case study form through descriptive statistics, which limits the ability to claim definitive associations. An area of future research should be a more rigorous, quantitative look at schools and students in combination to see how some of those structural factors affect student choice and ultimately outcomes. This would require a larger study as the *N* would have to be much larger but could very much be a worthwhile endeavor as research might be able to uncover the best structural practices in regards to tracking, especially initial placement.

Implications for Policy and Practice

The results of this study have reinforced the idea that school structures play a pivotal role in the lives of underrepresented groups. In this case, the most important structure concerns initial placement of students. If the track a student is in is to play such a pivotal role in that student's outcomes, it is vital that schools put in to place processes by which they ensure the best available initial placement. This process involves more than just the high school, articulations with feeder schools are vital so that each understands the intricacies of the curriculums at the other in order to make the most appropriate placements possible. I would also argue that middle schools need to begin to take a serious look at post-secondary outcomes in relation to their curriculum as the lack

of effect of mobility has shown that students are mostly tied to their initial placement and concordant post-secondary outcome when leaving middle school.

Counselors also play a vital role in this process. They must be the "squeaky wheel" for those students whose families do not possess the social and cultural capital required to effectively navigate the intricacies of a high school. Underrepresented students at Beta School and low-income students at Delta School appear to be the beneficiaries of quality counseling practices. Schools can support counselors in their work by providing them with the resources necessary to best advise students and families. Test scores, used heavily for initial placement by each of the schools in the study, are but one of these tools. Counselors must also have an intimate knowledge of the curriculums of feeder schools and access to teacher recommendations on placement. They must also get to know the students, their hopes and aspirations, in a substantive way prior to placement; the intake meetings performed by Gamma School prior to initial placement are a good example of this. Each of the counseling staffs interviewed recognized the need to advocate for these students in varying ways, school structures must be created that will provide them with the opportunity to do so.

The fact that the study did uncover a connection between negative mobility and outcomes should also be of great concern to educators. An essential part of the placement process at each of the schools in the study was the override process, or the ability of parents to override initial placement of students. Negative mobility in English had a significant relationship with outcomes and negative mobility in math had a marginally significant relationship with outcomes. Parents who override initial placement may be unintentionally setting up students for failure, prompting negative

movement. For example, for low achievers each of the schools had some variation of a reading class taken in conjunction with the standard English course is an effort to support those who needed additional assistance in this area. If parents override this placement, the student may never be gaining the skills necessary to be successful throughout their high school career as a result of lack of skills in reading and comprehension, resulting in lesser outcomes. It is vital that educators understand the affects that overrides might have on students and put policies in place that educate parents as to the negative consequences of that option, and perhaps discourage them from taking advantage of it.

In the end, the elimination of tracking altogether or a combination of first and/or second year untracked courses in appropriate curriculums may be the most appropriate way to ensure a level playing field in high schools. However, the educational and political realities of American education make this difficult. Schools must constantly work to ensure that their structures are not exasperating an already disastrous educational gap between those with capital and those who need it in order to compete. It is up to the true purveyors of American meritocracy, schools, to ensure that the way they go about their business isn't just another contributor to the fallacy of the "American Dream".

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VITA

William Morrison attended the University of Illinois, Urbana-Champaign where he began his life as an educator while employed as an instructor in an after-school childcare program at a local school district. Upon graduation, he took a position teaching Social Studies at St. Rita High School in Chicago, IL.

After teaching Dr. Morrison lived abroad for a time before returning home to continue his educational career at St. Xavier University in Chicago, where he was employed as an Admission Counselor in the Office of Undergraduate Admission. While there, he pursued a Master of Arts in Educational Policy, completing a thesis entitled *Just Say Maybe? The effect of the information age on drug education in the U.S.* After completing his Master's Dr. Morrison returned to the secondary level as a Senior Counselor at Benet Academy in Lisle, IL. While at Benet he became increasingly involved in numerous professional organizations, most notably the Illinois Association for College Admission Counseling where he has served as Chair for the Technology Committee and Government Relations Committee.

Dr. Morrison eventually took a position as College Counselor at Highland Park High School in Highland Park, IL, where he has been employed for the past fourteen years. During that time he has developed an expertise in post-secondary counseling, including specialties in working with students with learning differences and student-athletes. He has also expanded his involvement in professional organizations to the national level, currently serving as Chair for the National Association of College Admission

Counseling's Student-Athlete Advisory Committee. His current academic and research interests involve educational policy and its impact on higher education access.

In addition to his counseling duties, Dr. Morrison is also an Adjunct Faculty Member in the Counseling Education Department at DePaul University and coach's football at Highland Park. He is married to Ellen, his wife of 12 years, and has three children, Maeve, Will, and Johnny.