The Impact of Resources on Education: A Position Paper on How Theories of Social Capital Provide Insight on the Achievement Gap in the United States Education System

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Abstract

Research has shown that there is a gap in educational achievement between socioeconomic and racial groups in the public education system in the United States. This paper identifies the link between resources and academic achievement. Through examining educational resources, from in-school factors, such as facilities and teacher quality, to out-of-school factors, such as family structure, socioeconomic status, and community values, this study serves to evaluate several theories of social capital in the hopes of providing an explanation for why this achievement gap exists.

The review of the literature provided an inconsistent view on which factor has the most impact on educational achievement across diverse groups. In turn, this paper explores the possibility that the factors are interrelated and therefore difficult to compare. By outlining an analogy between Jared Diamond's (1999) geographic luck theory from *Guns, Germs, and Steel* and the public education system in the United States, this paper shows the importance of resources to academic achievement and how social capital plays a consequential role in students' performance in school.

Chapter 1 Introduction

The inspiration for this thesis paper comes from political scientist Jared Diamond and the geographical luck theory he proposes in his book *Guns, Germs and Steel* (Diamond, 1999). I was observing in a high school social studies class called "World Cultures and Geography," and the day I happened to be there, the teacher showed some of the documentary companion to Diamond's book. Diamond (1999) looked back over the course of world history and ultimately came to the geographic luck theory, which, in short, states that certain cultures developed faster than others due to the resources that were available to them. Watching this film from the back of the classroom, I had an epiphany - this same theory could be applied to education. Throughout my educational training, I have been studying the achievement gap between socioeconomic and racial groups in America and trying to figure out why students of different races and socioeconomic backgrounds are performing at such different levels in school. Watching this film was like a lightbulb going off in my head - the basic inequality of resources is the cause of the achievement gap in education, as it was the cause of the development gap in world history. Once Diamond's (1999) theory sparked my interest, I began to research past studies about educational resources, which lead me to the theoretical frameworks of social capital.

Statement of the Problem

There is an achievement gap in the public education system in the United States across racial and socioeconomic groups. This gap creates a cycle in which those who can afford to live in areas with the educational resources to help their students achieve reap the benefits of education. Meanwhile, those without these resources are left stagnant and unable to achieve the upward mobility that makes up the American Dream.

Purpose

The purpose of this study is to identify the link between resources and academic achievement in education in the United States. This paper describes the intersectionality of the factors that make up one's social capital, and how each student's unique combination of resources impacts educational achievement.

Theoretical Rationale

The theoretical rationale behind this study is that of social capital. Social capital can be defined in many ways; the definition that best suits the purpose of this study comes from Bourdieu: "Social capital is the sum of resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable network of more or less institutionalized relationships of mutual acquaintance and recognition" (as cited in Field, 2009, p. 17). In short, social capital is the sum of all factors that affect one's upward mobility, such as income, parental education level, community influence, health, race, school quality, etc. Social capital is often viewed as being something positive - for example, if a child's family has a legacy at a high performing university - however, it can also be negative, i.e. a student who grows up in a community where status in a violent street gang is more highly valued than education. Though income and socioeconomic status is a large part of social capital, social capital encompasses much more than that, leading this study to theories of social capital, as opposed to socioeconomic status, in order to expose the inequality of resources in the public education system in the United States.

Assumptions

One assumption is that social capital is positively correlated to educational achievement; i.e. students with higher social capital perform at a higher rate than students with lower social

capital. Certain social capital has a positive effect, therefore referred to as positive social capital, whereas types of social capital that are not helpful resources in education, such as a community that values gang membership over educational attainment, are classified as negative social capital. A second assumption is that the various elements of social capital are related. For example, if students have high socioeconomic status, they will most likely also have high quality schools and parents with college degrees.

Background and Need

There are two studies that establish the background and need for this work. The first is a study by Murnane and Levy (1996). The researchers followed fifteen low-income, high-minority schools in Austin Texas. In 1989, each school was provided with funds totaling $300,000 above normal school spending for the purpose of improving student achievement. Five years later, in 1993, student achievement and attendance remained extremely low in thirteen of the fifteen schools. However, in two of the original fifteen schools, attendance was among the highest in the city and test scores had risen to the state's average (Murnane & Levy, 1996). The difference between the two schools that improved and the thirteen that did not was how the schools decided to spend their money. In the thirteen schools that did not improve, administrators simply hired more teachers to reduce class size, but did not change anything else about how the school was run. The two schools that did have major improvements in attendance and test scores created a network of resources for their students.

In addition to including special education students in mainstream classes and adopting the gifted and talented curriculum for reading and math for all students, the school brought health services, something its students were lacking, into the school. This greatly helped to raise

attendance. The schools also invested in another important resource: parent involvement (Murnane & Levy, 1996).

Upon stepping back and taking a holistic view of this study, it is clear that simply adding more teachers was not enough of a boost of resources to propel students to better academic achievement. In the two schools that raised test scores and attendance, the addition of health services and parental involvement maximized the effect of smaller class sizes to actually make a difference in how students learned.

In the second study, Moore (2011) writes about two people, both named Wes Moore, who grew up in the same neighborhood and had similar backgrounds but ended up leading very different lives. While the author, the first Wes Moore, pursued a life of education and service, the other Wes Moore ended up with a life sentence in prison for murder. The two Wes Moores had several things in common, outside of their name. They both grew up without a father, in what some would call a bad neighborhood, and had their run-ins with the law. However, they also had several important differences, particularly in regards to their education, that might explain their different adult lives. Perhaps the most important difference between the two Wes Moores was that the author went to private school and then military school, while the other Wes Moore attended the local public schools. Additionally, the author's mother was college educated, while the other Wes Moore's mother had to permanently postpone her postsecondary education due to budget cuts that eliminated a scholarship she was supposed to receive. Lastly, the author's older sister was a model student, while the other Wes Moore's older brother dealt drugs.

The difference in the resources that were available to them as students makes sense of their different adult lives, despite their similar upbringings. The author had access to a better

education, a mother who had a college degree, and an older sibling who was a positive role model, while the other Wes Moore attended a less effective school, did not have a parent who set the precedent for going to college, and had an older sibling who was a negative role model. Moore's book serves as an interesting case study that validates the need for more research on how resources affect education.

Definition

For the purpose of this paper, the definition of social capital is as follows, worded by Ream (2005): "Broadly defined, social capital is the aggregate of the actual or potential resources embedded in social networks that may be converted into other manifestations of capital, including material capital (Bourdieu 1986), human capital (Coleman 1988), and healthy civic participation and community cohesion" (p. 203). Those "resources" comprise many factors that affect students' academic success, including, but not limited to, socioeconomic status, race, access to health care, parent education level, family structure, school quality, teacher quality, student-teacher ratios, per-pupil expenditure, community value of education, parent involvement, and family income.

Chapter 2 Review of the Literature

Introduction

This study reviews a diverse supply of literature, from articles and books on social capital itself, to anthologies and collections of articles and papers revolving around the concepts of social capital, cultural capital, social class, and educational achievement. The following section includes an overview of the history of social capital, a review of previous research, statistical information, administrative records, and other programs.

Historical Context

Though the idea of the importance of social networks has most likely been around for decades, there is a "broad consensus" that the contemporary significance of social capital comes from the 1980s and 1990s from three main sociologists: Bourdieu, Coleman, and Putnam (Field, 2009). Each of these groundbreaking figures had his own take on social capital, providing an overarching foundation for this research.

Bourdieu's theory of social capital originates from a European perspective, unlike Coleman and Putnam who are both American, and focuses on social class and other "entrenched forms of inequality" (Field, 2009). He began his studies of social capital in the hopes of explaining the achievement gap between children of different social classes. One of Bourdieu's most important beliefs was that social capital was not directly tied to financial capital; rather, he believed one's social and/or cultural capital could "operate independently of monetary holdings, and even compensate for lack of money as part of an individual's or group's strategy to pursue power and status" (Field, 2009, p. 16). However, he did not deny the importance of financial capital in his study of social capital, acknowledging that "economic capital is at the root of all

other types of capital" (Field, 2009, p. 18). He was, in turn, interested in ways that money combined with other kinds of capital to support and reinforce inequalities. He saw social capital as an asset used by elite groups. For Bourdieu, social capital lead to inequality, partly independently of economic capital, although he also allowed that social capital and economic capital are "nevertheless inseparable" (Field, 2009, p. 19).

Likewise, Coleman's interest in social capital was also born from a desire to explain inequality in academic achievement. His first studies, as early as the 1960s, were manifested in the "Coleman Report," a study that was mandated by an Act of Congress and overseen by the United States Office of Education (Field, 2009). The "Coleman Report" found that family and community factors had a larger effect on student achievement than factors related to the school itself (Field, 2009). In a brief summary, the report stated that it did not matter as much how much money a school spent on its students if they were troubled at home.

Another interesting finding of Coleman's that reinforced the importance of social capital was that students at Catholic schools and schools with other religious affiliations performed better than students at public or even other private schools, even after factors such as social class and ethnicity were taken into account (Field, 2009; Coleman, 1988). Coleman accounted for this disparity by focusing on the importance of community norms upon parents and pupils that were more fully enforced in religious communities, therefore proving that communities could be "a source of social capital that could offset some of the impact of social and economic disadvantage within the family" (Field, 2009, p. 26; Coleman, 1988). This aspect of his study also reinforced the importance of closure - the existence of mutually reinforcing relations between actors and institutions - in terms of enforcing social norms. Because the communities that surround Catholic

or other religious groups are often closed - that is, students' parents know each other and know the clergy and other authorities in the school - there are more people working together to discourage students from behavior such as playing hooky or ignoring assignments. In closed communities, all members have a common interest in the other members of their community, and in this way, social capital can work to propel the individuals from a certain group into success.

Putnam, on the other hand, saw social capital as rapidly declining, and was fervently worried about the welfare of American society. Putnam's definition of social capital changed over the years, but focused on three main ingredients of social life: networks, norms, and trust (Field, 2009; Putnam, 2000). He believed these three ingredients acted together to "enable participants to ... more effectively pursue shared objectives" (Field, 2009, p. 35). Of the three sociologists, Putnam stretched the concept furthest, seeings social capital as "a resource that functions at societal level" (Field, 2009, p. 44).

A fourth social capital authority, Woolcock, also identified three different kinds of social capital: bonding, bridging, and linking social capital (Field, 2009; Woolcock & Narayan, 2000). Bonding social capital represents the ties between people within a social group, or intra-network ties, while bridging social capital represents bonds with individuals from other social groups, or inter-network ties (Field, 2009; Woolcock & Narayan, 2000). Linking social capital stretches further, representing bonds with people in entirely dissimilar situations and allowing members to "leverage a far wider range of resources than are available within the community" (Field, 2009, p. 46).

Review of the Previous Literature

Establishing that an achievement gap between students of various social classes existed was necessary before reading studies investigating the effects of social capital on education. Mickelson and Smith (2009) state that "there is considerable evidence that indicates that, for poor and minority children, education helps legitimate, if not actually reproduce, significant aspects of social inequality in their lives" (p. 362) .

Why is this the case? Lareau (2009) examines the difference in the way middle and upper class and lower class and poor children are raised. She compares the middle-class child-rearing technique of concerted cultivation to the more community based and laissez faire style of child-rearing employed by lower-class and poor parents. Middle-class parents talk to their children, ask them questions about their day, plan extra-curricular activities to keep them engaged and socialized, and, most importantly instill in their children a value for education. Lower-class and poor parents, on the other hand, might not have time to orchestrate after-school activities or help with homework. Lower-class and poor parents may not have been to college themselves, and therefore do not set the example for obtaining a degree from an institute of higher education. In fact, "one of the best predictor of whether a child will one day graduate from college is whether his or her parents are college graduates" (p. 348).

Leonhardt (2005) points out that many disadvantaged teenagers personally know very few people who have made it through college. Television and the media may project the ideal of graduating from college, but there is no real life impetus to inspire many low-income teenagers to go to college. Leonhardt (2005) also quotes the President of Harvard, who discusses how the same SAT score can demonstrate more capability when the student comes from a lower social

background as compared to a student from a higher social background. Students with lower social capital are less likely to have taken a prep course, more likely to have gone to a high school that did a poor job preparing students for the test, and more likely to have come from a home with fewer resources for learning (Leonhardt, 2005).

Messner (2009) explores the different ways young men of various social backgrounds view sports. In his study, athletes from higher-status backgrounds tended to come to a point in their athletic careers where they realized how unlikely it would be to "make it" in professional sports, and turned their efforts to education to provide them with a successful career instead. Athletes from lower-status backgrounds, on the other hand, never reached that point of understanding; contrarily, they tended to view athletics as their "way out," and forsook education and other job training in favor of "going pro" (Messner, 2009). For young men of lower-status backgrounds, Messner (2009) cites "the poor quality of their schools, the attitudes of teachers and coaches, as well as the antieducation environment within their own male peer groups" (p. 184) as reasons that they are discouraged from pursuing education as a "way out" instead of an unlikely sports career.

Each article seemed to establish that there is a gap in educational attainment across social class boundaries. Many of the articles tried to isolate one factor of social capital, such as race, socioeconomic status, family structure, etc., to test its effect on education. Many of the studies were successful in creating comparisons among the various aspects of social capital, identifying which factors were significant in predicting student achievement.

The Coleman Report in 1966 was the first study to examine the effects of students' home factors and school factors on academic success. Coleman's original finding was that home

factors, such as family income, family structure, and parent education level, were stronger indicators of student academic achievement than were school factors, such as teacher quality, per-pupil expenditure, student-to-teacher ratios, etc (Field, 2009).

Likewise, other researchers continued to test different aspects of social capital against each other. Roscigno and Ainsworth-Darnell (1999) conducted a study that highlighted the differences between social capital and socioeconomic status. They quantitatively accounted for those two factors using tangible measures, such as educational resources provided by parents and teacher comments and academic tracking. The study "found strong main effects of cultural capital and educational resources that are consistent regardless of race or class" (Roscigno & Ainsworth-Darnell, 1999, p. 173). In this case, cultural capital is used interchangeably with social capital. Roscigno and Ainsworth-Darnell (1999) support their claim through data stating that 53% of racial gaps in GPAs and 39 % of racial gaps in math and reading achievement can be explained by socioeconomic status and family structural differences.

Another study on social capital and education tested the effects of parental support through academic transitions (Kim & Schneider, 2005). Though the study's original hypothesis was refuted, the researchers were still able to come to a statistically significant conclusion: parents' education level is more influential than family income when it comes to where students go to college (2-year college vs. 4-year college). Additionally, students who discuss academic issues with their parents are more likely to go to college than students who do not discuss academic issues with their parents (Kim & Schneider, 2005). It is also worth noting that parents who have been to college are likely to discuss academic issues with their children, so it is

questionable whether the parents' education level or the discussions themselves are the real instigator for college enrollment.

Lee and Bowen (2006) found similar results in their study on parental involvement. They, too, found that other factors of social capital were more influential than parental involvement in predicting academic achievement. In their study, which tested the effect of parental involvement on elementary school students across three demographic variables (race/ethnicity, socioeconomic status, and parental education attainment), findings showed that poverty and race/ethnicity consistently played a more significant role in predicting academic achievement than the effects of parent involvement. However, though parental involvement did not end up being the decisive factor in student achievement, Lee and Bowen (2006) do discuss "the importance of high expectations" (p. 212), which often go hand in hand with higher social status and parental education levels.

In 2009, both Oates and Condron revisited the topic of the Coleman Report - in-school factors vs. home, or class, factors. However, their findings, while in agreement with each other, were opposite to those of Coleman's from 1966. In Oates' (2009) study, neither social nor cultural capital significantly elevated student test performance, while school quality and teacher bias and expectations were found to play the biggest role in the disparity in achievement between black and white students. In Condron's (2009) study, school factors had a greater effect on the achievement gap than did class factors. However, Condron's (2009) study did not find that differences in social class also account for differences in race, as Roscigno and Ainsworth-Darnell (1999) had found. Contrarily, Condron (2009) found that even within the same social

class, there were disparities between blacks and whites, solidifying race as its own aspect of social capital.

While the previous seven studies were able to come to statistically significant conclusions about how different aspects of social capital ranked against each other - which ones were more influential on student achievement - two studies were unable to come to a clear result because of the overlap among the many factors. Ream (2005) conducted a study on mobility in Mexican American students that hoped to determine if mobility had an effect on school achievement. While Ream (2005) was able to confirm that Mexican Americans had higher levels of mobility than non-Latino Whites, he could not be sure whether the mobility itself was the cause of the lower achievement in school, or if their decreased social capital, which was a result of the mobility, caused the lower academic achievement.

Likewise, Shriner, Mullis, and Shriner (2010) conducted an experiment that looked into whether family structure affected student achievement. Like Ream (2005), Shriner, Mullis, and Shriner (2010) were able to confirm a hierarchy of achievement based on their hypothesis - children living with two biological parents performed better than children living with a married stepparent, who, in turn, performed better than children living with a single parent. However, the study did not find a significant amount of change between kindergarten and 5th grade performance among the three groups (Shriner, Mullis, & Shriner, 2010). Therefore, while family structure is undeniably an important aspect of social capital - and therefore of student achievement - it is so tangled with the other factors that is impossible to "blame" just one for the achievement gap. Additionally, Shriner, Mullis, & Shriner (2010) proved useful in supporting one of the assumptions mentioned in Chapter 1 - that the various factors of social capital are

interrelated. According to the study, students who live in two-biological-parent families are more likely to have higher socioeconomic status and have parents with college degrees than students who do not live with two biological parents (Shriner, Mullis, & Shriner, 2010).

Lastly, Dika and Singh (2002) put together a comprehensive overview of how social capital has appeared in education literature from the years 1990-2001. They broke down the literature into three chronological groups, analyzed the literature from those three time periods, and synthesized it by finding general trends, themes, and patterns. Like Ream (2005) and Shriner, Mullis, and Shriner (2010), Dika and Singh (2002) also came up with inconclusive results: "Although most of the relationships are significant in the expected directions, the current body of research does not provide sufficient theoretical or empirical support for hypotheses about the positive relationship between social capital and education-related factors" (p. 43). Because there are so many factors of social capital, it is challenging to pin down its significance. This study aims to explore the intersectionality of these factors and how the compound effect of the various aspects of social capital is what influences education.

Statistical Information

In addition to researching the issue of how social capital relates to academic achievement on a national level, specific local information about access to resources, school performance, and economic luck seemed important as well. The following section of this paper includes demographic and statistical information about Golden City (pseudonym), a local town with somewhat different characteristics than the majority of the county, to see what the economic luck theory looks like in one particular place.

According to the 2010 Census, Golden City is 38.9% White, 38.1% Black, 10.8% Asian, and 12.2% other races, including Hispanic/Latino. Of households in Golden City, 54.7% are family households, of which 24.9% are husband-wife families. Of households in Golden City, 4.8% have a male householder with no wife present, and 25.1% have a female householder with no husband present. Of all households in Golden City, 31.7% have children under the age of 18. Of those living in housing units, 30.7% own their units, while 69.3% rent (U.S. Census Bureau, 2010). As of the 2005-2009 Census estimates, the median household income in Golden City was $51,425. The median family income was $62,363, and the median per capita income was $27,041. This left 9.9% of families and 13.5% of individuals below the poverty level (U.S. Census Bureau, 2009).

As a whole, the Golden School District enrolls 384 students, 70.2% of whom receive free or reduced lunch, 83.5% of whom are categorized as being at a socioeconomic disadvantage, and 21.3% of whom are English Language Learners (Educational Results Partnership, 2011). Other important information to take into account about the Golden School District is the per-pupil expenditure of the district, and the demographic enrollment information of Golden Middle School in particular. According to data from 2010, the Golden School District spent $33,949 per student - the 2010 state average per-pupil expenditure for California was $8,452, putting Golden School District's expenditure at about four times that of the state average (Education Data Partnership, 2010). In the 2009-2010 school year, Golden Middle School enrolled a total of 41 students. Of these students, 3 were Asian/Pacific Islander, 32 were Black, 6 were Hispanic, and none were White. Of its 41 students, 36 were free lunch eligible in 2009-2010 (National Center for Education Statistics, 2010).

Another helpful resource was the California Department of Education's report of Golden Middle School's 2011 Star Test results. For Language Arts, 6th, 7th, and 8th graders were tested. Of the 6th graders, 0% of Golden Middle School students performed at an advanced level, 18% were proficient, 55% were basic, 18% were below basic, and 9% were far below basic. Of the 7th graders, 0% were advanced, 27% were proficient, 27% were basic, 27% were below basic, and 18% were below basic. Of the 8th graders, 0% were advanced, 38% were proficient, 44% were basic, 19% were below basic, and 0% were far below basic. For 6th grade math, 0% of those tested were advanced, 9% were proficient, 36% were basic, 45% were below basic, and 9% were far below basic. In 7th grade math, 0% were advanced, 27% were proficient, 18% were basic, 55% were below basic, and 0% were far below basic. In 8th grade algebra, 0% of those tested were advanced, 19% were proficient, 19% were basic, 56% were below basic, and 6% were far below basic. For 8th grade history, 13% of those tested were advanced, 13% were proficient, 56% were basic, 6% were below basic, and 13% were far below basic. For 8th grade science, 50% of those tested were advanced, 13% were proficient, 25% were basic, 13% were below basic, and 0% were far below basic (California Department of Education, 2011a). Additionally, for the 2010-2011 school year, the Golden School District had an 11% truancy rate, and 104 suspensions due to violence/drugs (California Department of Education, 2011b).

Administrative Records

The local Civil Grand Jury report (2008) on the Golden School District proved to be valuable background research as well. The report was a follow-up to a similar report conducted in 1997 that was not very complimentary of the District, citing behavior, discipline, and leadership problems as well as a lack of academic achievement. Much of the report was

evaluating the District's progress since 1997, particularly that of Golden Elementary School, which had improved considerably. The report was especially critical of the District's low test scores given its high per-pupil expenditure, compared to the state average. At the summation of the 2008 report, the Grand Jury (2008) made four recommendations to the District. Firstly, the District should improve communication with Golden City organizations and families, adding staff as needed to enhance relationships, participation, and cooperation. Second, the District should consider ways to blend Golden Middle School with the successful and productive Golden Elementary School learning environment. Third, the District should assist its charter school to become more attractive to Golden City families by providing it significantly greater financial support and public acknowledgement. Finally, The District should increase outreach to recruit more students in Golden City to its three schools (Civil Grand Jury, 2008).

The Civil Grand Jury (2008) report also acknowledged that the Golden City School District is comprised of two towns with different socioeconomic and demographic characteristics. Additionally, it addressed the fact that Golden Elementary School had made more progress than Golden Middle School and offered possible explanations. Firstly, students at Golden Middle School have only spent a year or two in the improved environment at Golden Elementary - we will need to wait until the students who are now excelling at Golden Elementary to get to Golden Middle before we will see improvements. Additionally, the challenge of entering adolescence, paired with the physical isolation of the middle school from the elementary school, detracts from Golden Middle being able to reap the benefits of Golden Elementary's success.

Other Programs

In addition to background research on the Golden School District, there are other local programs designed to provide disadvantaged students with the resources they are not receiving at home. One of these programs is Summer Search, a nonprofit company that works with low-income high school students to help them graduate high school and go on to college. The program finds students in their sophomore year of high school and conducts a comprehensive evaluation to determine if the student will be a good fit for the program. Students that are selected, are paired with a mentor who will work with them through their last two years of high school and beyond. The program also sends students on educational, philanthropic, and/or team building trips over the summers between their sophomore and junior year and junior and senior year. 99% of the students Summer Search works with graduate from high school, 95% go on to post-secondary school (including 92% to college), and 85% of their students are persisting in college (Summer Search, 2011). All of this data is made even more compelling by the fact that 90% of Summer Search students qualify for free lunch. Essentially, the program provides these students with some of the social capital resources they do not have on their own, including college advising, the funds to go on these life-changing summer trips, and also the continuous support of their mentors.

Chapter 3 Method

To review, the research question driving this paper is: What can theories of social capital reveal about the achievement gap in education? Using non-experimental design and mixed methods, this study investigates the literature to find evidence that the intersectionality of the various aspects of social capital is what has such a profound effect on academic achievement. The quantitative data involved in this study includes demographic and academic data from Golden City, as well as quantitative data from the studies in the analysis. The qualitative data is mostly from the interview with Mrs. Saunders (pseudonym), in addition to qualitative data from the studies in the analysis. The only participant in this study is Mrs. Saunders, who is someone I know personally and chose purposefully for this study because of her experience with Golden Middle School.

This study first looks at *Guns, Germs, and Steel* (Diamond, 1999) as the inspiration for this topic, and particularly how strands of Diamond's theory fit in with the education system in the United States. This study also includes information about Golden City in its interpretation of *Guns, Germs, and Steel* (Diamond, 1999).

This paper adheres to ethical standards in the treatment of human subjects in research as articulated by the American Psychological Association (2010). Additionally, the research proposal was reviewed by the Dominican University of California Institutional Review Board for the Protection of Human Subjects (IRBPHS), approved, and assigned number 9013.

Chapter 4 Findings

The Extended Metaphor

While watching a documentary based on Jared Diamond's (1999) book *Guns, Germs, and Steel*, the phrase "geographic luck theory" stood out, which Diamond uses to explain how some societies became "disproportionately powerful and innovative" (Diamond, 1999, p. 10). These societies were lucky enough to live at a geographic location that supplied them with the resources they needed to develop and advance. The geographic luck theory could be true with regard to the public education system in the United States as well. Some students have the luck of being born into a family with higher social capital and therefore have many educational resources at their fingertips, while other students are unluckily born into families with lower social capital and are therefore without many of those resources. This economic luck theory has created an achievement gap in the public education system in the United States, in which students with higher social capital do "disproportionately" better in school than students with low social capital do. Inspired by this analogy, this study analyzes Diamond's (1999) book through the lens of the education paradigm to see where and how else his theory might apply to public education.

Diamond's (1999) book revolves around the question of why human development proceeded at such different rates on the different continents, which is parallel to the question of why students' educational attainment occurs at such different rates in areas of differing social capital. "Much of human history," Diamond (1999) writes, "has consisted of unequal conflicts between the haves and have-nots" (p. 93). The bottom line is that it all comes down to resources. Diamond (1999) analyzes how the Fertile Crescent, now the Middle East, had a significant head

start over other geographic areas due to the abundance of resources available to support the rise of food production: crops and domesticable animals that were native to the region and a climate that supported many seasons of farming, and therefore a high diversity of crops. This chapter explores the extended metaphor between food production in our world's ancient history and student success in public schools in the United States. Just as cultures that lacked certain resources lagged in the development of food production, students that lack certain resources lag in academic achievement.

According to Diamond's (1999) geographic luck theory, "In Africa, some peoples were much 'luckier' than others, in the suites of domesticable wild plant and animal species that they inherited from their environments" (p. 389). In the United States' public education system, some students are "luckier" than others, in the suites of social capital resources that they inherit from their parents. Diamond (1999) goes on to say how the "different historical trajectories of Africa and Europe stem ultimately from differences in real estate" (p. 401). Likewise, it has been said that the best indicator of a student's academic success is his or her zip code - real estate is an important factor for student achievement as well (Smith and Butrymowicz, 2010).

When discussing the Polynesian Islands, Diamond (1999) identifies six environmental variables that affected their people's development. He cites island climate, geological type, marine resources, area, terrain fragmentation, and isolation as the six main factors in the development of Polynesian peoples (Diamond, 1999, p. 58). Viewing this list in light of the education paradigm, there are six sets of social capital variables that affect students' academic achievement: income/socioeconomic status, parent education level, family structure, school facilities, teacher quality, and community values. Just as Diamond (1999) argues that his six

environmental variables can account for the differences in the evolution of peoples from different Polynesian Islands, the six social capital variables can account for the differences in academic achievement in students from different social capital backgrounds.

These six factors are somewhat hard to isolate from each other because they are so intertwined; family structure and parent education level often define income/socioeconomic status, which in turn defines school and teacher quality. Income is a big factor in education because wealthier parents can (and do) invest more time and money in their children than parents with lower social capital. As of 2007, upper-income families were spending nine times as much on their children as lower-income families (Kornich & Furstenberg, 2011). Wealthier parents engage in what is called concerted cultivation, where they try to offer their children as many opportunities for development as possible, from after-school sports and clubs to academic support such as tutors (Kim & Schneider, 2005). These activities stimulate students' minds and expand their interests, along with keeping them from getting involved in negative behavior such as gangs or watching too much television. Additionally, wealthier parents spend more time reading to their children, which builds a foundation for education that puts them at a head start before they even start school. By the time they are four years old, children of wealthier families will have been exposed to 35 million more words than a child from a lower-income family (Winerip, 2012).

Parent education level is important as well, and is very influential to a family's income, as parents with higher education levels tend to have higher incomes, and therefore can afford houses in better school districts. Parents with higher levels of education also set a higher standard for their students. Parents who graduate from college expect their children to go to college, to the

point where parents' graduation from college is the best indicator of students' college graduation (Lareau, 2009). Additionally, parents with higher education levels are better able to help students with homework, especially as they get older and homework gets harder. Studies have shown that higher parent educational achievement is associated with higher student achievement (Lee & Bowen, 2009).

Family structure also contributes to income, because single parents only have one income to support the family, while some two-parent families have two sources of income. Parents in two-parent families also typically have more time to spend with their children than single parents, who are often stretched to their limits trying to work and take care of the family's minimum survival requirements. Family structure is important not only because single parents do not have as much time or money as two-parent families, but also because having an unstable home life can negatively affect students' academic achievement. When students face problems at home, it distracts them from achieving their potential at school.

School facilities and teacher quality are both connected to income as well. Because public schools are funded by community taxes, people who live in the wealthiest communities also have the best funded schools. When schools have more money, they can afford to hire extracurricular coaches, teachers, and leaders, and to maintain sport and activity facilities that make students want to be at school. Additionally, wealthier schools have the money to hire enough teachers to keep class sizes small, and attract better teachers because teachers want to teach in places where children are eager to learn and there is better pay. Wealthy schools often tend to get more donations from parents and the community, giving them even more economic resources that schools in low-income areas do not have.

Lastly, community values have a large influence on students' academic achievement. If students live in a community where education is valued, they will be motivated to do well in school. Conversely, students who live in communities that are plagued by gang violence and do not have positive academic role models see no value in education, and are sometimes even stigmatized for doing well in school. All around them, they see people who were unable to succeed through the public education system, so they give up, thinking any attempts at academic achievement will be in vain.

In addition to the six environmental variables Diamond (1999) discusses when addressing Polynesia, there were several other analogies that stood out. The first is that of colonization. Diamond (1999) explains that the main source of human progress came from the spread of food production. In some places, food production originated on its own; people discovered the area's native plants and began to control how and when they were harvested. Food production sparked a large chain of events which ultimately lead to world trade and travel. Diamond (1999) states that "the adoption of food production exemplifies what is termed an autocatalytic process - one that catalyzes itself in a positive feedback cycle, going faster and faster once it has started" (p. 110). Once they had a stable source of food, people started living in communities. Once they lived in communities, they began to share jobs and responsibilities, allowing people to begin to specialize in certain skills. Once people had specialized skills, they began to trade the things they made. And finally, once they began to trade, they began to travel.

When those cultures who had reached this point in human development traveled to places whose inhabitants were still hunting and gathering, they brought food production with them and colonized those areas. For example, native New Guineans were originally restricted from

developing food production because they did not have domesticable grains or animals, but when travelers brought more productive crops from their homelands, "local peoples promptly took advantage of them, intensified food production, and increased greatly in population" (Diamond, 1999, p. 153). Likewise, when Europeans brought horses to North and South America, Native Americans learned to master them (Diamond, 1999, p. 356).

In short, when an area lacking resources is given those resources, its people should be able to incorporate them and become productive. This theory is even more effective when those resources include new technology. Diamond (1999) discusses how, over time, technology made food production easier and more productive. Applying this theory to the realm of education would imply that the solution to the achievement gap would be to simply "colonize" unsuccessful schools, by bringing the techniques, technology, and resources that schools in higher social capital areas have to schools in lower social capital areas.

One example where this concept of "colonization" was successful was at Golden Elementary School in Golden County, CA. As demonstrated in Chapter 2, Golden County has the demographics of an inner-city community, but is located in a suburban county in California. In 1997, a Civil Grand Jury report was conducted in the Golden School District, which, at that time, consisted of one K-8 school. The report returned unfavorable results for the school's low test scores, lack of strong leadership, and violent behavior among students. Since then, the district has been restructured to include one elementary school (K-5), one middle school (6-8) and one charter school (K-8). A second Civil Grand Jury Report in 2008 showed remarkable improvements for Golden Elementary School, though Golden Middle School had not shared the same success. The district and administration at Golden Elementary strengthened their lines of

communication, reached out to parents and the Golden City Community, and implemented strong administrative leadership. Strengthening these resources at Golden Elementary led to a drastic improvement in test scores, better student behavior, more parent involvement, and a better relationship with the Golden City Community. For these students, supplying those missing resources significantly improved academic achievement (Civil Grand Jury, 2008).

However, being able to deliver resources to where they are lacking is not always possible, in both the geographic luck theory and the economic luck theory. Sometimes resources cannot be transferred, because other factors get in the way. For example, the Mediterranean-like climate of South Africa would have been an optimal location for food production to have originated on its own, but the founder crops were not native to the area, and "the 2,000 miles of tropical conditions between Ethiopia and South Africa posed an insuperable barrier" (Diamond, 1999, p. 186). So even though the environment in South Africa might have been ideal, there were factors that prevented the other necessary resources from being in place. South Africa is an example of how the aggregate combination of resources make the process of food production successful - though South Africa had the proper environmental resources, it was missing the crops themselves. In education, student success is also based upon the aggregate combination of resources. As an analogy to the South Africa example, Golden Middle School built a new school building, making it an ideal environment for learning. However, it was still lacking the strong, consistent central administration that Golden Elementary had developed, and was therefore unable to boost student achievement.

Another drawback to the colonization idea is resistance to change. Diamond (1999) explains how in some cultures, the resources were available, but people chose not to change their

ways. Some hunter-gatherers saw neighbors using food production techniques, but chose to stick with hunting and gathering. Some school districts might feel the same way, and be resistant to change. However, food production provides for the future and allows people to focus on specific skills and improve upon themselves, while hunting and gathering only yields daily sustenance. These schools that are resistant to change are like the hunter-gatherers who continue subsisting but do not make any progress. If students with low social capital began to achieve more in school, instead of just subsisting at a mediocre level, education could be an autocatalytic process as well.

Another analogy between Diamond's (1999) geographic luck theory and the public education system in the United States is depicted in the table below. Diamond (1999) outlined the major disadvantages Native Americans faced when compared to the advantages of the Eurasians of the fertile crescent. The Native American's disadvantages are paired with analogous disadvantages students of low social capital backgrounds are faced with when compared to students from high social capital backgrounds.

Geographic Luck Theory: Native American agriculture vs. Eurasian agriculture (p. 356-357)	**Economic Luck Theory:** schools with students of low social capital vs. schools with students of high social capital
Protein-poor corn vs. protein rich cereal	Ineffective teachers vs. Effective teachers
Hand planting vs. plowing and broadcast sowing	Inefficient spending vs. efficient spending
Lack of animal manure to increase fertility	Lack of pre-school
Muscle power vs. Animal power	Lack of parental/community support vs. existence of parental/community support

As shown in the previous table, Diamond (1999) identified several disadvantages the Native American agricultural system had when compared to that of the Fertile Crescent and early Eurasian farmers. Protein-rich cereal grains, like those grown in the Fertile Crescent, were more fortifying and sustaining than the protein-poor corn grown by Native Americans. Likewise, effective teachers engender more engagement and therefore better learning than ineffective teachers, and therefore also fortify and sustain student achievement more than ineffective teachers. Diamond (1999) also investigates the method of plowing; Eurasians were much more efficient planters, using plows and broadcast sowing, while Native Americans had not yet developed that technology and sowed by hand. Inefficient spending in schools can be seen as an analogy to inefficient planting.

Diamond (1999) also cites the Native American's lack of animal manure for use in agriculture as a disadvantage. Without manure to fertilize the land, Native American agriculture was less productive. In the economic luck theory, pre-school can be viewed as analogous to manure, in the sense that it provides an important foundation for growth. Because pre-school education is mostly privatized in America, many students with low social capital do not attend pre-school, and are therefore starting out already behind their higher social capital peers when they begin school. However, it is worth noting that programs such as Headstart and Jumpstart are making progress toward providing affordable early childhood education for students with low social capital, which is a step in the right direction.

Finally, Diamond (1999) discusses the difference between human muscle power and animal power with relation to agriculture. The economic luck theory view of this disadvantage would be that parent and community involvement is comparable to animal power, in that parental

and community support gives students assistance in achieving their goals, just as animal power gave Eurasian farmers assistance in plowing, sowing, and harvesting their crops.

However, there is one disadvantage that Diamond (1999) discusses that has an opposite reaction in the economic luck theory than it has in the geographic luck theory. In *Guns, Germs, and Steel* (Diamond, 1999), crowding is cited as a catalyst for progress; as more people moved into an area, they began to work together and develop new technologies. In public schools, however, crowding is detrimental to student progress. Lower student to teacher ratios were shown to have a positive effect on graduation rates in a study done in Illinois in 1993 (Card & Kreuger, 1996). In Diamond's (1999) theory, crowding serves to motivate people to develop better ideas and increase their quality of life, particularly when considering isolation, which could be viewed as the opposite of crowding in terms of the geographic luck theory. For example, Diamond (1999) discusses native Tasmanians who remained hunter-gatherers instead of switching to food production because they were isolated. Being so isolated meant that Tasmania was not involved in the new technology that was developing, such as food production, that would have allowed them to progress from their hunting and gathering state. The case of the Tasmanians proves that interaction between cultures is crucial to progress.

While crowding may be detrimental to student achievement, collaboration between schools is more productive than isolation, just as it is between cultures. One of the explanations for why Golden Middle School did not make as much progress as Golden Elementary between the Civil Grand Jury Reports is because Golden Middle had its own campus, isolated from that of Golden Elementary. Therefore, Golden Middle did not share in the successes that were occurring at the elementary school. When schools share their successes and failures with each

other, they can replicate achievements and avoid future mistakes. In this sense, collaboration amongst schools can be seen as a resource of social capital - one that is missing from Golden Middle and impacting its students' achievement.

Lastly, Pizarro and the Spaniards' overtaking of Atahuallpa and the Azetcs also resonated with the differences between schools with students of low social capital backgrounds and schools with students of high social capital backgrounds. Pizarro and his army arrived in South America with steel swords, guns, other weapons, steel armor, and horses, while the Aztecs had no animals to ride into battle on, stone, bronze or wooden clubs with which to fight the Spaniards' steel weapons and bullets, and quilted armor that was not as protective. Diamond (1999) says that the immense "imbalances of equipment" between the two groups made it inevitable for the Spaniards to win over the Aztecs. While the education of students of different social capital backgrounds is not a battle and there is no "victor," as there was among the Spaniards and Aztecs, students of low social capital backgrounds and students of high social capital backgrounds also face an "imbalance of equipment" that allows high social capital students to succeed in school and makes it much more difficult for low social capital students to do so. To extend the metaphor, students with higher social capital are like the Spanish horsemen who could cover large distances with little time or effort, while lower social capital students have to walk the same distance on foot.

Diamond (1999) ends one of his paragraphs with the statement, "Hence the availability of domestic plants and animals ultimately explains why empires, literacy, and steel weapons developed earliest in Eurasia and later, or not at all, on other continents" (p. 92). To translate this phrase into the language of the economic luck theory, the availability of educational resources

ultimately explains why students with higher social capital perform better in school than students with lower social capital. However, Diamond (1999) also acknowledges that it is impossible to point out a single factor on which to lay the blame for the differences in human development rates. Though he can point to food production as being a vital first step, he also states that food production is only possible when all of the necessary resources are in place, which he refers to as "the complexity arising from enormous numbers of variables" (Diamond, 1999, p. 424). Likewise, the public education system in the United States faces the same challenge. The various elements of social capital work together to either support a student's education or to stand in its way. The studies that try to isolate one factor as being more influential than another are ignoring the important point that there is an intersectionality between all of these factors that ties them together and creates a compound effect that ultimately affects student achievement.

Application

In addition to the extended metaphor in Diamond's (1999) literature, further information on a the Golden School District was valuable to this study. This particular district has a somewhat unique demographic makeup compared to the rest of Golden County, looking more like that of an inner-city neighborhood than a suburban neighborhood like the majority of the county. On top of the atypical demographics, Golden School District also has an unusually high per-pupil expenditure compared to the state average, and the contrast between the low social capital demographics of Golden City and the high expenditure of Golden School District seemed to be an interesting application of social capital. Could Golden School District be attempting to compensate for its students' low levels of social capital by boosting school spending?

Interview with an Expert

I interviewed a past administrator of mine, Mrs. Saunders (personal communication, November 21, 2011), who had later become an interim principal in the Golden School District. Though she was not employed there full time at the time of our interview, she did still work for the district as a consultant. I asked about her experiences in the district, particularly at the middle school, where she was directly involved as the interim principal for several months. The interview questions mostly pertained to how she saw the factors of low social capital affecting students at Golden Middle School, and what resources Golden Middle School itself offered in an effort to provide the resources the students were lacking due to low social capital.

Mrs. Saunders reported that she mostly saw the effects of low social capital in the way the parents of Golden Middle School students cared about their students but did not know how to parent. She posited that perhaps the parents did not have good role models themselves, or, in some cases, parents were too self-involved to give guidance to their children, or to know if and when guidance was needed. The biggest way she saw social capital at work at Golden Middle was through the cultural and social expectations and norms that permeated the community of the Golden District, largely due to the students' race. She discussed certain norms that worked outside of school but were not appropriate for school hours, such as the need to have the last word. She also mentioned that it was difficult for some students to get to a point where they understood what behavior was necessary for learning. One point she made that somewhat surprised me, based on the demographic research, was that of all the factors of social capital, monetary resources were not lacking. However, she did qualify that statement by adding that how to take advantage of or value those monetary resources were often lost on most students.

One of my questions was about the resources that Golden Middle School provides to its students. Golden Middle School just underwent a campus remodel in which a brand new school building was built, giving the students beautiful new classrooms in which to learn. However, Mrs. Saunders said that students just did not seem to care about the new building. The SmartBoards, however, have been a successful improvement. The teachers are able to take instantaneous assessments of their students, which makes day to day lesson planning and classroom management easier. Golden Middle also offers an extended day learning program, funded by the County Community Fund, in which students can get extra help on their schoolwork after school hours. Additionally, the community runs a recreation district for students to get involved in extracurriculars, a Headstart program for preschool, after-school programs run by the Boys and Girls Club and Youth in Arts, and the Golden District employs a social worker, counselor, and psychologist (whom Mrs. Saunders reports is not often there). Lastly, the District runs a parent program, run by the social worker; however, it does not get great attendance.

I also asked about how students at Golden Middle School responded to their teachers and administrators, and if some teachers had better relationships with students than others. If so, what was it about these teachers that helped them develop a rapport with students? Mrs. Saunders mentioned two teachers in particular that the students seemed to really connect with. One of them was from Golden City herself; however, instead of going through the Golden District schools, her parents had opted to send her to one of the many private schools in Golden County. Mrs. Saunders noted that while the students seemed to enjoy this teacher, she also was easily frustrated by the students. The other teacher Mrs. Saunders identified as being among the students' favorites was a young Language Arts and History teacher who was very popular with

the 6th graders. She was very good with SmartBoard lessons and using the board to project primary documents and sources to tell stories to the kids, since the textbook chapters were very difficult for students to follow. However, Mrs. Saunders felt she was not getting the support from the administration that she deserved. When I asked Mrs. Saunders what made these teachers stand out, or what qualities made these teachers favorites among the students, she cited a trust factor, a sense of humor, and being able to talk on the students' level.

The Civil Grand Jury (2008) report about the Golden School District that I read in preparation for my interview with Mrs. Saunders mentioned that Golden Elementary, the school that feeds into Golden Middle School, has made drastic improvements over the past ten to fifteen years. I asked Mrs. Saunders why she thought Golden Middle had not had the same success. Her response was that Golden Middle is lacking consistency. The school needs a young, talented administrator that is in it for the long haul - at least ten years - that will come in and build a cohesive staff from the inside out. At the end of our interview, I asked Mrs. Saunders if there were any points we had discussed that she would like to emphasize, and she circled back to the idea that schools need to belong to the community, and therefore the community needs to value education.

Chapter 5 Discussion /Analysis

Summary of Major Findings

The major findings of this position paper are that the resources students have available to them explain the differences in academic achievement among students of differing socioeconomic and racial backgrounds. Additionally, it is often the case that missing one or some of the aspects of positive social capital is enough to negatively affect a student's academic achievement. Because the various aspects of social capital are so intertwined and dependent upon each other, it is nearly impossible to identify one of them as the main cause of the achievement gap. These factors act together and compound upon each other to either support or hinder students' academic achievement.

Comparison of Findings to Previous Research

The findings of this paper are somewhat of a synthesis of the previous research. Most of the previous studies identified single aspects of social capital and identified their effects on student achievement, while this paper found that all of the factors of social capital affect student achievement together. Instead of comparing various aspects of social capital, such as parent education level and socioeconomic status, to each other, this paper found that the intersectionality of these factors, or the way they work together, is what impacts student performance. Essentially, this paper embraced a broader definition of social capital than those used by previous studies, and in turn produced a simpler and more comprehensive conclusion about how social capital affects academic achievement.

Limitations/Gaps in the Study

Though the extended metaphor between the geographic luck theory and the economic luck theory is helpful in understanding the cause of the achievement gap, it generalizes the concept of academic achievement and how aspects of social capital can affect students' performance. Though these generalizations do apply to most students, there are always exceptions, and this paper does not address those exceptions. These exceptions include students with high social capital who do not perform well in school and students with low social capital who do perform well in school. Because the aspects of social capital are not the only factors at play in academic achievement, the generalizations made in this paper are not always correct. Factors that are not related to social capital and could cause exceptions to the generalizations include student attitude, giftedness, learning disabilities, and substance abuse, among others.

Additionally, this paper relies on previous studies to supply evidence for the extended metaphor to *Guns, Germs, and Steel* (Diamond, 1999). It would perhaps have been stronger to use original research to confirm the analogies in the interpretation of Diamond's (1999) historical account.

Implications for Future Research

The implications for future research suggested by this paper would be to not test for which aspect of social capital has the greatest effect on student achievement, but rather to prove that the various factors are correlated to each other, and it is therefore impractical to attempt to isolate them. Additionally, further research on programs such as Summer Search, Jumpstart, Headstart, and charter schools could determine whether providing additional resources to students of low social capital positively affects their academic achievement.

Overall Significance of the Study

The sheer number of factors that impact student achievement make it challenging to come up with a simple solution to the achievement gap. However, identifying that the imbalance of resources is the cause of the achievement gap is the first step in trying to solve the problem. As per the *Guns, Germs, and Steel* (Diamond, 1999) analogy, it would seem that supplying resources where they are needed will yield student achievement, as supplying the food production package where it was needed resulted in societal advancement. Some examples of this concept in action include the Summer Search program mentioned in Chapter 2, in which students are provided with mentors that focus on getting them through high school and into college, and the hundreds of charter schools that have opened in urban areas around the country, providing a strong focus on academics to counteract the effects of low social capital.

Perhaps the worst part of the achievement gap is that it creates a cycle, in which those who have high social capital maintain their status and those with lower social capital are inhibited from gaining higher status by their low social capital. Though some social capital resources are non-transferrable (for example, if a student grows up in a single-parent household, he or she can not just be given a second parent), the gap could be diminished by providing students of low social capital with the resources that can be delivered (such as high quality teachers, well-maintained school facilities, and adults who believe in students and care about their success). Providing those resources to underserved students would allow them to experience the "American Dream" of upward mobility through academic achievement, and eliminate the negative side of the cycle where their social capital gets in the way of their success in school instead of promoting it. Closing the achievement gap is a lofty goal, and one that

cannot be accomplished overnight. However, if educators can focus on getting students the resources they need to succeed, one class at a time, the gap can begin to shrink.

About the Author

Kayla Zeisler is passionate about closing the achievement gap and providing high quality education to all students, regardless of their social capital. Having been lucky enough to grow up with high social capital, she feels the need to give back to underserved students, which she hopes to accomplish by being an excellent teacher. Kayla is strongly motivated by the story about the little girl and the starfish: There was once a little girl walking along the beach, picking up starfish that had washed ashore and throwing them back into the ocean. Someone watching her approached her and asked what she was doing - there were so many starfish on the beach, how could she possibly make a difference? The little girl picked up a starfish, threw it into the water, and said “I made a difference for that one!” Kayla sees the achievement gap as a problem like the many starfish washed ashore on that beach. As an educator, she knows she will not work with every underserved student, but she is dedicated to giving her best effort to help the ones she teaches accomplish their goals.

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