# A Child’s Socioeconomic Status and the Achievement Gap

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The performance of children from lower socioeconomic status (SES) families tends to be lower than that of children from more privileged backgrounds (Von Stumm, 2017). There have been many studies done to show how the gap can widen and shrink based off geographic locations, as well as teachers and schoolboards aware of the problem and actively trying to close the gap (Reardon, 2011). The achievement gap exists not from just one variable; many different variables come into play with the achievement gap such as socioeconomic status, family background, and geographic location (Hanushek, et al., 2019; Reardon, 2015). The persistent achievement gap has multiple implications for society; lower educational outcomes are associated with lower future income levels, limited career opportunities and other negative social outcomes (Bassok, et al., 2016; Hanushek, et al., 2019; Reardon, 2014, 2015).

The purpose of this explorative case study is to examine the ways a child’s socioeconomic status can have a negative effect on their educational journey. An interview was conducted from two school administrators from different states; comparing interview responses from schools in a low-income neighborhood to schools in a high-income neighborhood. This explorative case study reviews literature supporting the importance of socioeconomic status and the achievement gap, followed by research method, results, discussion and suggestions for future research.

## Review of the Literature

Recent studies continue to document stark socioeconomic status differences with respect to a range of parental investments and childhood experiences, including language environments, reading practices, extracurricular activities and exposure to engaging out-of-home settings (Bassok, et al., 2016; Hanushek, et al., 2019; Reardon, 2014, 2015; Von Stumm, 2017). Researchers have shown a sizeable gap within different income brackets with dollars spent on childcare, preschool participation and access to a home computer (Egalite, 2016; Hanushek, et al., 2019). Moreover, a substantial gap in exposure to playgrounds, museums, hours per week engaging in joint literacy activities and the primary caregiver’s verbal responses has contributed to the educational achievement gap (Bassok, et al., 2016).

Reardon (2015), stated, “The growing perception that early childhood experiences are central to winning a lifelong educational and economic competition.” He also indicated families are increasingly investing in their younger children and that higher income families are investing at rates that outpace middle and low-income families (Reardon, et al., 2014). Reardon (2015) mentions that before the 1990s, parents invested time into their teenagers and, more recently, invested into their children under the age of six. Agreeably, changing the focus from teenagers to younger children demonstrates an ability to affect the child’s ability early and not require children to play “catch up” as they age (Egalite, 2016).

However, not all families have the resources or knowledge to set their children up for success at a young age (Reardon, et al., 2014). Parents, who themselves, come from low-income families may not have the education or knowledge to know what is right for their child when it comes to early education (Egalite, 2016). They also may not have the means to put their child in early learning schools or daycare that not only socializes children, but teaches children the basic things they need going into kindergarten (Reardon, 2014).

### Why income matters

According to Reardon, et al. (2014) and Egalite (2016), higher income has shown to improve children’s cognitive abilities and social-emotional competence. As a result, rising income inequality may lead to growing disparities in children’s cognitive and socio-emotional development (Reardon, et al., 2014). The effects of family income on children are mediated through the family environment (Egalite, 2016). With increased income, parents invest money and time into their children to provide educational and developmental inputs that influence children’s developmental outcomes (Reardon, 2015). Furthermore, with an increase in income inequality, the period from the mid-1990s to the mid-2000s saw a substantial increase in average parental spending on children, with the largest increase coming from increased spending on both young children and college-aged children (Reardon, 2015).

Data from the nationally representative Consumer Expenditure Survey show that high-income families increased their spending on their children over this period by roughly 150%, compared to a 60% increase among low-income families (Reardon, et al., 2014). This survey shows higher income families can do more for their children when it comes to schooling than the low-income families. Due to the higher-income families spending more on their children’s education and childcare, it increases their abilities to have more resources and develop cognitively faster and more efficiently (Bassok, et al. 2016).

### Income and time spent

Some research also shows the amount of time spent with the child can make a difference (Reardon, et al., 2014). The increase in time spent was greater among college-educated parents than those without a college degree, according to data form the American Time Use Surveys (Bassok, at al., 2016). This survey not only showed how much time college-educated parents spent with their children, but also more time spent during critical developmental ages. Children zero to two years old were being taught by their parents through play and sensory. Once into the ages of three to five, parents were reading to their children, developing learning activities, as well as activities to prepare them for school (Reardon, 2015). As parents spent more time providing greater environmental stimulation and scaffolding their children’s activities in developmentally appropriate ways, these parental behaviors also promote young children’s self-regulatory capacities (Goodall, 2017). As parents deliberately choose to be active in committing to spend time assisting in the academic development of their children, the achievement of that child grows (Goodall, 2017). Lugo-Gil and Tamis-LeMonda (2008) summarize this research focus by stating, “Parents who spend more time and monetary resources on children’s consumption, education and care have children who achieve more in terms of cognitive ability.” Nevertheless, spending time with children is not always a luxury for parents to have. Some parents have to work and place their child in the care of another person or into a facility or daycare (Bassok, et al., 2016).

### Income and preschool

Not only do college graduate or high-income parents spend more time with their children for developmental purposes, but they also ensure their children attend preschool (King, 2020). Historically, white and higher-income children are more likely to attend preschool, as opposed to non-white and lower-income children (Reardon, 2015). The increase in preschool enrollment has risen in recent years for low-income families as well, believed due to the increase in public funding for preschool programs across the United States (Reardon, et al., 2014).

Children with low socioeconomic statuses enter school with lower math proficiency due to their limited math exposure in their early years and the quality of their home learning environment (King, 2020). According to Reardon, et al., (2014), studies of academic and cognitive outcomes have shown children who have formal, or classroom-based early learning, outperform those children who are in a more informal setting such as home with a parent, babysitter, or a family childcare home. High-income families have more resources to ensure their children are well educated and prepared for school, allowing them to send their children to formal care arrangements that challenges and develops cognitive behaviors (Reardon, 2015). Low-income families do not have as many resources and attend at-home daycares or stay with babysitters that may not provide academic activities for the children, however, families do have access to regulated public preschool programs but most are government funded and not the top of the line center for education (Reardon, 2015).

There has been interest and investment into early childhood education over the last twenty years (Bassok, et al., 2016). The increase in investment shows it can help low-income families enroll their children into good schools and better preschool programs with the increase in available resources (King, 2020). Not only do children need successful preschool learning, but also resources threaded into the learning, such as technology (Bassok, et al., 2016).

### Income and enrichment tools for children

Data shows a gap between low and high-income families regarding access to a computer for children (Reardon, 2015). Not only do higher-income households have more access to computers, the way they use computers vary by socioeconomic status (Parker, et al., 2018). Reports from the National Telecommunication and Information Administration (2018), show socioeconomic status impacts the speed of the internet connect, number of computers per household, and quality of computers. Low-income families do not always have access to the internet or a computer in order to complete their work in a timely manner or do the research needed (Parker, et al., 2018). Computers are important to child development, as founded by Janisse, et al. (2018) in their study with low-income children. They found that children with access to computers displayed significantly greater increases in quantitative development than children who did not (Janisse, et al., 2018).

Over the last 20 years, this gap has decreased, as most in low-income families have at least a smartphone or tablet for internet access, yet the gap has not been completely closed (Reardon, 2015). Most students need access to the internet for multiple things such as research and writing papers (King, 2020). Younger school-aged children need the internet, as most schools require some type of at home computer based learning for homework (Reardon, 2015). Some schools loan out laptops to those children who do not have access to one at home, but there also leaves having access to the internet still a problem. Technology has come so far, but left many behind, especially low-income families (Reardon, 2016). However, books are much cheaper and do not have to be bought, they can be rented or even checked out from a library at no cost (Chmielewksi, 2019).

A study by Espinosa, et al., (2006) reported kindergarteners on the low-income spectrum had about 34 books in their home for reading, while higher-income families had three times as many. It is difficult to separate the casual relationship between home literacy environment and child outcomes because the number of books that a family has in the home and the amount of time parents spend reading to their children are highly connected with many other factors such as family resources and family preferences (Bassok, Finch, Lee, Reardon, & Waldfogel, 2016). Reading to children is another factor that goes into a child’s socioeconomic situation to prove the achievement gap does exist, but with many variables to consider (Espinoza, Laffey, Whittaker & Sheng, 2006).

## Method

For this case study, interviews with two school administrators, from schools in two different states, with different socioeconomic statuses were scheduled. The overarching question was if and how much socioeconomic status affects the achievement gap. The interviewees were Assistant Principal Dr. Mytra Cunningham of Collins Elementary School in Houston, Texas and Mrs. Kathryn Zimmerman from Westmont Hilltop Elementary School in Johnstown, Pennsylvania. Both were asked the same series of approved interview questions

Dr. Mytra Cunningham, Assistant Principal of Collins Elementary, has been working as an administrator at the district for five years, specifically in elementary education grades K-5 (M. Cunningham, personal communication, April 16, 2021). Mrs. Zimmerman is a second grade teacher at the Westmont Hilltop Elementary School in Johnstown, Pennsylvania. She has been at the district since she graduated college in 2006 (K. Zimmerman, personal communication, April 17, 2021).

Additional demographic research was completed online to find statistics that were unknown by the interviewees. The schools chosen show a disparity, based on demographic and achievement ranking statistics (Public School Review: Collins Elementary School, 2018; Public School Review: Westmont Hilltop Elementary School, 2018).

## Results

### Collins Elementary School

There are 867 students enrolled in Collins Elementary school and 725 of them are economically disadvantaged (M. Cunningham, personal communication, April 16, 2021). The student to teacher ratio of 12:1 is lower than the state average of 15:1 (Public School Review, 2018). The family income received by the school is only disclosed when a family applies for kindergarten enrollment. If a child is new to the school and entering in a higher grade, income is not requested to be provided. However, families are required to submit proof of income if they are applying free or reduced lunches (M. Cunningham, personal communication, April 16, 2021). As of 2018, 90% of students at Collins Elementary qualify for the free or reduced lunch program (Public School Review, 2018).

The students in Collins Elementary School are predominately Hispanic (59%), Asian (26%), black (12%), white (2%) and American Indian (1%) (Public School Review, 2018). An equity study completed in 2020 for Collins Elementary shows the 90% disadvantaged students may be falling behind other students in the state and this school may have significant achievement gaps (GreatSchools.org, 2020). At Collins Elementary, Hispanic students (59%) rank 2/10 for overall testing, whereas Asian students (26%) rank 4/10 and black students (12%) rank 3/10 (GreatSchools.org, 2020). The state average for low-income student’s progress is 50%, Collins Elementary school falls below that mark to 36% for low-income and underserved minority students and above the state average for all other students in the school, at 60% (GreatSchools.org, 2020).

When it comes to testing, Collins Elementary School falls below the state average of 42% on overall test scores, with low-income and underserved minority students scoring 22% versus 40% for all other students, causing an achievement gap within the school (GreatSchools.org, 2020). The state’s average for reading proficiency is 46%, low-income Collins students’ average 30%; math state average is 50%, low-income Collins students’ rank 33%; science falls to only 26% for low-income Collins students, versus the state average of 48% (GreatSchools.org, 2020). With disadvantaged students (90% of students) at this school falling behind other students’ proficiency in the state, the achievement gap is increasing (GreatSchools.org, 2020).

Another key factor that could be widening the achievement gap is the average teacher salary and the percentage of teachers who have three or more years of experience. An average teacher’s salary at Collins Elementary is $50,530 annually; the state average is $53,106 (GreatSchools.org, 2020). The number of teachers whom have more than three years’ experience is at 83% (GreatSchools.org, 2020). School funding also comes into play with resources for students. Collins Elementary receives $8,069 per student from the state, whereas the state average per student for funding is $12,612 (Texas Education Agency, 2020).

### Westmont Hilltop Elementary

The interview with Mrs. Kathryn Zimmerman and research for Westmont Hilltop went much differently. There are 718 students in K-5 grade at Westmont Hilltop Elementary (K. Zimmerman, personal communication, April 17, 2021), and 258 are considered students from low-income families (GreatSchools.org, 2020). The student to teacher ratio of 15:1 is equal to the state average of 15:1 (Public School Review, 2018). Regarding the free or reduced lunch program, every student receives free breakfast and lunch from a government-funded program approved by the schoolboard (K. Zimmerman, personal communication, April 17, 2021). Family income is only recorded when the child is registered for kindergarten (K. Zimmerman, personal communication, April 17, 2021).

The students at Westmont Hilltop Elementary are predominately white (84%), Hispanic (4%), black (3%), two or more races (8%), and Asian (1%) (Public School Review, 2018). All students, regardless of race, rank 7/10 on overall testing (GreatSchools.org, 2020). Compared to other students across the state of Pennsylvania, all Westmont Hilltop students are above the state average when it comes to student progress, regardless of socioeconomic status (GreatSchools.org, 2020). Only 36% of students at Westmont Hilltop are categorized as low-income (GreatSchools.org, 2020).

For overall testing, Westmont Hilltop students are 73% proficient, above the state average of 62%, with low-income and underserve minority students scoring above the state average with 67% proficiency (GreatSchools.org, 2020). The state’s average English testing is 60%, whereas Westmont Hilltop low-income students score 68%; math scores for the state average 50%, low-income Westmont students score 57%; science state average is 62%, where low-income Westmont Hilltop students score in 75th percentile (GreatSchools.org, 2020). With Westmont Hilltop Students overall testing at 73% and low-income and underserved minority students scoring 67%, there is still a small achievement gap within the school (GreatSchools.org, 2020).

The average teacher’s salary in the state of Pennsylvania is $90,678 and Westmont teacher’s average salary is $63,558, well below the state average (GreatSchools.org, 2020). The percentage of teachers with three or more years of experience is 82% (GreatSchools.org, 2020). Westmont Hilltop receives $30,567 per student from Pennsylvania state funding; with an average on funding per student is $15,823 (GreatSchools.org, 2020).

### Comparing Collins and Westmont Hilltop

Collins Elementary school has 149 more students than Westmont Hilltop. Socioeconomically speaking, the majority of Collins Elementary students (90%) are low-income, versus only 36% of Westmont Hilltop students, setting the school as a whole at a disadvantage. However, the student teacher ratio at Collins is only 12:1, as opposed to the Texas state average and Westmont Hilltop average of 15:1, allowing teachers more interaction with smaller classrooms. Collins Elementary requires family income to qualify for free, or reduced, lunches (M. Cunningham, personal communication, April 16, 2021), whereas Westmont Hilltop provides every student with free breakfast and lunch, due to a government-funded program (K. Zimmerman, personal communication, April 17, 2021).

Racially, both schools are not racially diverse; the majority of Collins students are Hispanic (59%) and the majority of Westmont Hilltop students are white (85%). Collins Elementary is more racially diverse than Westmont Hilltop. There is a racial disparity for overall testing scores at Collins that is not apparent at Westmont Hilltop.

Overall testing for Texas scores only 42%, compared to Pennsylvania students scoring 62% proficiency (GreatSchools.org, 2020), meaning education proficiency as a whole is lower in Texas by 20% in the areas of reading, math, and science. For reading proficiency scores, Collins’ low-income students rank 30%, as opposed to Westmont Hilltop’s low-income students ranking 68%; math proficiency at Collins for low-income students averages 33%, in comparison to 57% for Westmont Hilltop students; science scores are even lower at 26% for Collins’ low-income students, versus 75% for Westmont Hilltop low-income students (GreatSchools.org, 2020). The disproportion for scores between the two schools is most drastic for science and reading, with a 49% and 38% swing.

Teachers’ salaries differ by just over $13,000, with Collins teachers receiving the lessor income (GreatSchools.org, 2020). Additionally, there are more teachers at Collins than Westmont Hilltop with three or more years’ experience (GreatSchools.org, 2020). The most appalling discovery from this study is the difference in state funding per student; Westmont Hilltop receives $22,498 per student more than Collins. Westmont Hilltop students receive almost twice the amount of other schools in Pennsylvania and 1.74 times the amount as Collins (GreatSchools.org, 2020).

### Closing Achievement Gaps

Both interviewees were asked if they believe there is an achievement gap in their respective schools. Dr. Cunningham stated yes and gave examples of measures in place of how they are trying to reduce the gap at Collins Elementary. The district has nine full time interventionists that service students in every grade level throughout the day. The district has also hired paraprofessionals trained by content specialists to meet with primary students one-on- one. Additionally, the school provides tutors after school for grades two through five. The content specialists also spend time coaching and team teaching with struggling teachers to meet their needs of the students in those classrooms. Parents are also offered academic nights where they can come into the school and learn the strategies that teachers are using in the classroom so they can help their children at home. Bi-weekly the campus leadership team reviews data and tracks students’ progress. Trends in data are analyzed and instructional adjustments are made accordingly. Additionally, the teachers meet with the district assessment team monthly, to try closing the achievement gap of the students they serve on a daily basis (M. Cunningham, personal communication, April 16, 2021).

Mrs. Zimmerman’s answers to the interview questions were quite different from Dr. Cunningham. When asked if there was an achievement gap in her school, Mrs. Zimmerman stated she was unaware of one. She also elaborated on what the school is doing to alleviate any type of gap, should it exist. Quality teachers and Tier 1 instruction is practiced throughout the school. Teachers plan student-centered, engaging lessons and have one on one time with each student throughout each week. The student to teacher ratio in the classroom is 15:1. This caters to the needs to each student and gives the learners a more diverse way of instruction. The progress of students is monitored regularly by the teacher, as well as aids within the school, to ensure no student is falling behind on any subject. If a student is identified as falling behind, a program called Response to Intervention (RTI) is deployed to assist the student in their education struggle and get them back on track. The RTI program also keeps parents informed of the child’s progress and what they can be doing at home to get the student back on track. The RTI team also collects and analyzes trends in teaching and students to make adjustments as needed in the classroom (K. Zimmerman, personal communication, April 17, 2021).

## Discussion

Even though this case study was small and based on the selection of two teachers in different states, it is clear the academic achievement gap does tie into a child’s socioeconomic status. Both interviewees are aware of what the achievement gap is and know of practices in place within their school district to help close the gap, or keep it from existing. The two teachers interviewed spoke more on lived experiences and practice regarding the gap, than on specific data. This case study has shown there is not just one cause of the gap, but also many factors that attribute to the inequality in public school systems.

For future studies, it is recommended that research is completed within the same state, due to the difference in overall proficiency scoring for reading, math and science for Texas and Pennsylvania. Additionally, research should be done to compare more than two elementary schools within the state, focusing on those with wide differences in overall proficiency. Finally, while family circumstance and the socioeconomic background has been studied, state funding should also be considered due to the differences in state funding and overall proficiency uncovered in the study between Collins and Westmont Hilltop Elementary Schools.

## Conclusion

Most of the evidence provided suggest some of the achievement gap is caused by a child’s socioeconomic status. It seems as if this gap is increasing as the low-income and high- income data changes over the years. All of the variables that come into play with the achievement gap create a contribution to widening it. Each variable within the achievement gap and was causes it, is more than likely interconnected with another cause. More research to understand the causes of these trends is necessary and needs to be continual in order to close the achievement gap.

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