

## **BACKGROUND:**

# **STUDENTS FROM POVERTY**

**E**ducation, touted as the great equalizer, cannot on its own lift all poor students from where they begin. Although school quality can narrow or widen the achievement gap, schools only make up a small part of student achievement; the rest can be attributed to nonschool factors like one's living conditions. To lift poor children, we must: first, take stock of these living conditions and assess poverty's impact on student health, cognitive development, and social-emotional growth; second, we must address what schools and classrooms can do; and finally, we must advocate for the programs and services proven to level the academic playing field.

For the first time in history, the achievement gap based on income has surpassed the achievement gap based on race/ethnicity, according to researcher Sean Reardon of Stanford University.

"We have moved from a society in the 1950s and 1960s, in which race was more consequential than family income, to one today in which family income appears more determinative of educational success than race."<sup>1</sup>

Reardon found the income achievement gap is now nearly twice as large as that between Blacks and Whites.<sup>2</sup> This is a reversal from 50 years ago when the Black-White gap was one-and-a-half to two times as large as the income gap.

Almost a quarter of American children are living in poverty. More precisely, 15.5 million children are living in poverty,<sup>3</sup> one in five children receive food stamp assistance,<sup>4</sup> and over 50 percent of students qualify for free or reduced-price lunches.<sup>5</sup> A life likely characterized by unreliable housing, food insecurity, inadequate health care, inconsistent childcare, and stressed caregivers leaves a child ill-prepared for school and for life. Such an environment increases the likelihood of physical, socioemotional, cognitive, and academic problems. Dilapidated housing increases exposure to lead poisoning; everyday stressors impact parenting and negatively affects a child's socioemotional and cognitive development; food insecurity harms brain development; and, unstable housing negatively impacts school attendance.<sup>6</sup> As a result, poor children begin school behind their peers, have higher rates of absenteeism, have lower reading and math skills, are more likely to have developmental delays, are more likely to drop out of high school, and more likely to be poor in adulthood.

This paper will examine poverty's impact on student physical health, socioemotional health, and the brain. Further, although children spend only 20 percent of their time in school, this paper will examine the school's role in student development, as well as propose effective policies and programs that go beyond the classroom.

## From the Beginning

Poor children often begin school significantly behind their peers. It is imperative that we understand why this is so. Poverty is a malady that reveals itself via multiple symptoms: chronic absences, behavioral outbursts, disciplinary issues, fatigue, or hopelessness, to name a few. Poverty infects children's bodies and minds, ultimately placing them at risk of failing out of school. The problem usually begins in the womb and worsens the longer they remain in poverty.

Children born into poverty are likely to be born premature, underweight, and with disabilities.<sup>7</sup> Nontraditional hours and or jobs that pay by the hour interfere with parents' abilities to attend regular medical appointments. Inadequate prenatal care combined with parent habits and environmental stressors take a toll on fetal development. Prenatal smoking and drinking, for example, increase the likelihood of a premature, underweight birth and cognitive disabilities. As a result, low-birth-weight babies, on average, have lower I.Q. scores and attention disorders.<sup>8</sup> Further, stressful living conditions—unstable work and housing—impact caregiver mental health, and in turn impact fetal health. Maternal stress interferes with the absorption of nutrients, impacts emotional functioning, and affects

cognitive development.<sup>9</sup> Research confirms prolonged exposure to stress impacts wiring in the brain, leading to anatomical changes, which then lead to problems with learning and behavior.<sup>10</sup> Moreover, inadequate nutrition affects gray-matter mass in the brain; deficiencies in vitamins and minerals have been linked to memory issues and depression.<sup>11</sup> Continued food issues throughout a child's development will ensure they show up to class tired and inattentive, making him or her more vulnerable to lead absorption and doubling the chances of growing into an obese adult.<sup>12</sup>

Once out of the womb, the child born in a struggling neighborhood is likely born in an environment with poor housing conditions, lack of quality early childhood education, toxic pollutants, and food insecurity. Such an environment, along with erratic work schedules, can weigh heavily on caregivers and can negatively impact caregiving, specifically responsiveness and engagement. Caregiver-child interaction is a crucial component of child development. Without quality engagement, children can enter school significantly behind their nonpoor peers. In fact, researchers found that children born to working-class parents and caregivers receiving assistance were exposed to fewer vocabulary words and greater reprimands, ultimately resulting in a 30-million-word deficit by the time children entered school. Professional parents spoke over 2,000 words per hour to their children, working-class parents about 1,300, and caregivers receiving assistance about 600.<sup>13</sup> Additionally, toddlers of professionals got an average of six encouragements per reprimand while working-class children received two, and

children in families receiving assistance received one encouragement for two prohibitions.<sup>14</sup> As a result of hearing far fewer words and a greater number of prohibitions, it is likely that poor children will enter school six months behind their peers. Moreover, children raised in such stressful environments find it harder to pay attention and follow directions in class.<sup>15</sup> In her book, *Changing the Odds for Children at Risk*, Susan Neuman, former U.S. assistant secretary of education, wrote:

*“Twice as many poor children will have short attention spans, three times as many will speak in a way that is not understandable to strangers—stuttering or stammering—and almost five times as many will be in poor health. Only a small fraction of poor preschoolers will display any signs of emerging literacy and the small motor skills necessary to begin writing.”*

As children continue to grow, they are exposed to environmental toxins that further harm their development and negatively impact school attendance, increasingly placing them further behind their peers. Poor students lose 30 percent more days from school than their nonpoor peers.<sup>16</sup> These absences can be attributed to their increased exposure to lead dust and overcrowded living conditions. Poor children are more likely to live in older housing and more densely populated areas, which increase a child’s exposure to lead dust and contraction of asthma. Lead exposure harms cognitive functioning and behavior, as asthma impacts sleep and causes children to miss more than seven

days of school a year.<sup>17</sup>

School performance is further affected by vision, hearing, and dental problems. Poor children have twice the normal rate of severe vision impairment, have more hearing problems than their nonpoor peers, and three times as likely to have untreated cavities.<sup>18</sup> Such ailments lead to trouble focusing in the classroom and behavioral problems, all of which place a child at risk for disciplinary action and increases absences. In addition to physical maladies, poor children are more likely to suffer socioemotional harm which exacerbates behavioral problems.

### **Growing Deficits: The Brain and Behavior**

Multiple stressors in the home environment can take a toll on student behavior. In fact, one in five children growing up in poverty has elevated risk for socioemotional difficulties.<sup>19</sup> Socioemotional problems usually present as impulsivity, difficulty in focusing, aggressiveness, passiveness, hopelessness, low self-efficacy, and disruptive behavior in the classroom.<sup>20</sup> Such students are essentially suffering from stress disorders.

As noted previously, less than optimal living conditions can place quality caregiving at risk and, in turn, can negatively impact socioemotional development. Poverty places unusual demands on parents—coordinating childcare with nontraditional work hours and transporting children to school with no reliable mode of transportation—which in turn impacts their ability to provide a safe and nurturing environment.<sup>21</sup> Due to their living conditions, poor parents report

high levels of mental health issues like anxiety and depression, which cause them to be less responsive to their children and use harsh discipline.<sup>22</sup> These conditions can result in poor attachment, giving the child an increased chance of developing emotional and behavioral problems and could even become socially dysfunctional.<sup>23</sup>

Exposure to chronic stress changes the child's developing brain—precious resources in the brain are redirected toward coping with stress rather than supporting cognitive functions. As a result of the flood of stress hormones, different pathways are formed in the brain and other pathways become blocked off, thus damaging the child's ability to regulate emotions. Further, chronic stress impacts the amygdala, hippocampus, and prefrontal cortex, all of which are responsible for learning, memory, and executive function. Not only does the flood of stress hormones inhibit retrieval of learned information and impair ability to sort out what is important, it harms a student's chances at future success.<sup>24</sup>

Executive function is a set of cognitive processes including self-monitoring and self-control. Self-control is an example of a noncognitive skill. Noncognitive skills—sometimes referred to as “social and emotional learning,” “soft skills,” and/or “meta-cognitive learning skills”—consist of the skills not captured in cognitive tests such as aptitude tests, standardized tests, or course exams. Nonetheless, these skills are critical to academic success; earning course credits, for example, requires a set of behavioral skills, including self-regulation. Mastery of such skills has proven predictive of future academic suc-

cess. Without such skills, changes in cognitive ability may be unlikely.<sup>25</sup> Growth in noncognitive skills has been tied to increases in course grades and future educational attainment.

Not understanding how the stressors present in poverty impact the brain and behavior further exacerbates the issues; school discipline policies, learning disabled classifications, teacher expectations, and class size have the potential to create more harm and place children even further behind their nonpoor peers.

### **Slippage: School Policy and Practice**

Children from poverty begin life behind their nonpoor peers and continue to sink further behind without intervention. To improve the chances at success for these children, it is imperative to acknowledge poverty's impact and implement strategies that narrow, not widen the achievement gap. School discipline policies, for example, have the potential to place children even further behind. As stated previously, children from poverty are more likely to suffer from stress disorders and be subjected to harsher discipline at home, which can lead to misbehavior in the classroom.<sup>26</sup> Not recognizing this fact, schools are quick to send these “bad” students out of the classroom. Removing students from the classroom places them at increased risk for dropping out of school. Suspensions result in missed school days, placing students further behind, and diminishing educational engagement. Additionally, suspensions increase behavior problems, increase the likelihood of substance abuse, and increase the likelihood of involvement with the juvenile justice system.<sup>27</sup>

Like school discipline policies, classifications as learning disabled (LD) and teacher expectations can either narrow or widen the gap.

Researchers estimate that as much as half of all LD referrals are due to misbehavior in the classroom and not academics, and approximately 12 percent of all referrals are incorrectly classified.<sup>28</sup> For those students who are misclassified, however, future academic achievement is at risk. In 2003, only 34 percent of exiting LD students received a diploma.<sup>29</sup> Misclassification impacts student self-esteem, motivation, and fosters a deficit perception.

Teacher expectations is one of the most impactful in-classroom factors on student achievement, along with student-teacher relationships.<sup>30</sup> Expectations and engagement are found to affect performance and predict school drop-out. Studies confirm that teachers expect less, on average, from Black students than Whites; such expectations are not necessarily racially motivated but based on past performance.<sup>31</sup> In fact, when past grades and test scores are accounted for, teachers will have the same expectations for White and Black students who performed equally in the past.<sup>32</sup> As a result, when teachers expect students to fail, they may unknowingly reinforce student thoughts of hopelessness and negatively impact student performance, as the low expectations perceived by students, decrease motivation and effort.<sup>33</sup> A cycle of low expectations and low performance is perpetuated. Such a cycle, however, can be interrupted by effective teaching strategies. Moreover, the achievement gap can be narrowed by implementing specific practice and policy changes in

the classroom and at the school, district, state, and federal levels.

## Treatment and Prevention

Students from poverty suffer from a lack of resources, which translates into a lack of school-readiness skills. As a result of these conditions, students from poverty are more likely to be placed in special education, likely to fail courses, or drop out of high school. Poverty, however, is not destiny. Educators can help by becoming more aware of the symptoms of poverty and implementing strategies proven to mitigate poverty's harmful effects and increase student engagement and achievement.<sup>34</sup> Growth-oriented mindset, for example, is a technique that teaches students that intelligence is not fixed and it can be developed. When educators focus on growth and change, students begin to believe in themselves and their capacity to reach their goals.<sup>35</sup> Additional instructional techniques include: 1) helping students to feel they belong or are valued; 2) helping students to see how the curriculum is relevant to their own lives; 3) helping students to set goals, identify obstacles, and learn self-control strategies.<sup>36</sup> These strategies mostly address the feelings of hopelessness commonly expressed by children in poverty. Those addressing behavior and memory include mindfulness and physical exercise. Mindfulness is a stress-reduction technique used to quiet the minds of children and helps to regulate behavior. As for exercise, teacher-led physical movement inside and outside the classroom has been shown to mitigate poverty's impact on the brain. As stress hormones damage pathways in the

child's developing brain, physical exercise mitigates this impact by creating new pathways between neurons and creating additional neurons. Such changes lead to increased cognition, better memory, increased self-control, and reduce the likelihood of depression.<sup>37</sup> Additional information on classroom strategies can be found in NEA's handbook, ***Teaching Children from Poverty and Trauma***.

### *Beyond the Classroom*

Classroom strategies alone will not be enough to address the needs of students from poverty. Policy and practice change must also occur at district, state, and federal levels. Bringing children in poverty up to the same level as their nonpoor peers will require more than quality instruction. Additional supports and resources like wraparound services and smaller class sizes are integral to closing the achievement gap. School leaders and policymakers can begin to address the gap by funding wraparound services like early childhood education with home-visitation, funding optimal ratios of specialized instructional support personnel (SISP), and implementing breakfast in the classroom, afterschool programs, and class size policies.

Out-of-school factors are the largest contributors to the achievement gap: a childhood without sufficient resources and high-quality nurturing place the child's cognitive and socio-emotional development at significant risk. Early intervention is key to preventing the harm before it begins. Home-visitation programs usually begin while the mother is pregnant and continue until the child is about two or three years

old. Home visitors, usually nurses or paraprofessionals, will assist with prenatal check-ups and instruct parents on responsiveness. Clancy Blair, a researcher in psychology at New York University, discovered that responsive parents reduced the amount of stress hormones in their children, thus protecting them from the damaging effects of stress.<sup>38</sup> Michael Meaney, a neuroscientist from McGill University, confirms nurturing bonds between caregivers and children fosters resilience and protects the children from a harsh early environment.<sup>39</sup> Forming secure early attachments between the caregiver and child translates into fewer behavioral problems in the classroom later.<sup>40</sup>

Problems with behavior and focus can be further mitigated by hiring optimal ratios of SISP and implementing breakfast in the classroom. Optimal ratios of SISP mean one counselor for every 250 students, one school nurse for every 750 students, one school psychologist for every 500 to 700 students, and one school social worker for every 250 students. Currently, about 25 percent of the nation's schools don't have a school nurse.<sup>41</sup> Optimal ratios of SISP can effectively address the underlying causes of problems in the classroom, such as: abuse, neighborhood violence, dental and or vision issues, hunger, and or homelessness. Not only can SISP services, such as mental health, mollify childhood trauma, but also improve noncognitive skills. Most noncognitive skills are primarily located in the prefrontal cortex, the area most affected by childhood trauma. By addressing the trauma, damage can be repaired and noncognitive skills improved.<sup>42</sup>

Breakfast in the Classroom (BIC) is a federally

funded program that began as a pilot and has now expanded to all schools. BIC was expanded after demonstrating significant positive effects on student achievement. BIC has proven to decrease disciplinary and psychological problems, decrease tardiness, increase attentiveness, increase attendance, improve concentration, comprehension, and memory.<sup>43</sup>

Additionally, summer and after-school programs ensure students don't slip further behind. Doris Entwisle and Karl Alexander, in their 1997 book, *Children, Schools and Equality*, discovered that the achievement gap widened during out-of-school time. Studies comparing students who spent one to four hours weekly in school-sponsored activities to those who spent no time in such activities found that nonparticipants were more likely to use drugs, more likely to be arrested, and drop out of school.<sup>44</sup> Additionally, time spent in out-of-school enrichment activities has been linked to positive relationships, increased sense of belonging, and emotional adjustment.<sup>45</sup>

Finally, small class sizes offer students from poverty an opportunity to get the individualized attention they require. With fewer students in the classroom, an educator is afforded more time to understand students and tailor instruction to meet their needs. Studies prove that students in smaller classes have fewer disciplinary problems and are more likely to take college entrance exams.<sup>46</sup>

Evidence-based services like home visitation, after-school programs, and smaller classes come at a price, however. Federal Title I funds are

simply not enough to ensure all students have equal opportunity. Title I funding does help to shift the distribution of funding to high-poverty settings, but it is insufficient to turn around regressive state funding formulas. Currently, only 34 states supplement the general state finance system for low-income students. However, simply having a factor that provides some additional funding on the basis of poverty does little to guarantee that a state school finance system, on the whole, provides sufficient additional resources to children in poverty. While 34 states provide some form of poverty-based supplement in their aid formulas, only a handful of states actually ensure systematically higher levels of resources in higher poverty districts.<sup>47</sup> Equitable and adequate funding for schools is a prerequisite for ensuring reasonable class sizes, competitive teacher wages, and the ability to provide specific programmatic interventions that may help to counterbalance the adverse effects of increased poverty and growing income inequality.<sup>48</sup> Research on state school finance reforms supports this contention with a significant body of state-specific studies showing that changes to the level and distribution of available resources can, in fact, influence changes to the level and distribution of student outcomes.<sup>49</sup>

### *Beyond the School*

Although additional resources can address the symptoms of poverty and the achievement gap, additional preventive measures are needed. A life in poverty can be characterized by its unstable housing, erratic and/or low-wage employment, and unreliable transportation, which impact one's ability to provide nutritious food,

quality childcare, and consistent healthcare—all of which lead to stress on the caregiver and child.

Over a quarter of Americans are spending more than 50 percent of their income on housing, and in January 2015, 564,708 people were homeless on a given night in the United States.<sup>50</sup> Unaffordable housing and homelessness wreak havoc on achievement; the constant shuffling from home to home or shelter to shelter disrupts attendance and learning. In fact, 34 percent of public school eighth graders switched schools twice after kindergarten, and 18 percent switched three times.<sup>51</sup> Such high mobility rates widen the achievement gap and may account for up to 15 percent of the gap between White and Black students.<sup>52</sup> Researchers estimate that reducing the mobility of low-income students (those eligible for lunch subsidies) to that of other students would eliminate 7 percent of the test score gap by income.<sup>53</sup>

Currently, only one in four people who qualify for assistance receive housing vouchers. Increasing direct subsidies to low-income renters would not only provide much needed stability but could also positively impact student attendance and reduce household stress. The Urban Institute estimates that expanding housing subsidies would reduce child poverty by 20.8 percent and lift 2.3 million children out of poverty.<sup>54</sup>

Unaffordable housing can be attributed to the rising cost of living and stagnant wages. The annual income for an individual on minimum wage is \$14,500, and the official poverty threshold for a family of four is \$24,418.<sup>55</sup> Since

1968, the real value of the minimum wage has fallen by a third, thus impacting families' abilities to provide food, housing, and childcare. By raising the federal minimum wage to \$12 by 2020 and indexing for inflation, one in four workers and 17.5 million children will be positively impacted.<sup>56</sup> A 2005 study by Dahl and Lochner estimated that a \$3,000 increase in family income in early and middle childhood boosts reading and math achievement.<sup>57</sup> Additionally, a \$10,000 annual increase during the prenatal period to age five was associated with positive long-term outcomes for children such as additional work hours and higher earnings as adults.<sup>58</sup>

An increase in the minimum wage, however, will not do much if individuals cannot reach their places of employment. Twenty-four percent of African American households, 17 percent of Latino households, and 13 percent of Asian American households do not own a car, leaving carpooling or public transportation as their only options for transportation.<sup>59</sup> Most rides on public transit are taken via bus—about 50 percent of public transportation trips are made by bus; 36 percent by heavy rail; 5 percent by commuter rail; and 5 percent by light rail (including streetcars)—and ridership has been steadily increasing.<sup>60</sup> Additionally, the segment of the population most likely to use buses—recent immigrants, people of color, and low-income individuals—are projected to increase.<sup>61</sup> Despite projections, 90 percent of public bus companies reduced service or raised fares in 2009. Reductions in service can lead to an increase in commute time and impact economic well-being. A Harvard study found that the longer the average

commute, the lower the chances of low-income families moving up the economic ladder.<sup>62</sup>

Investments in public transportation, however, will not be enough to address the needs of those from poverty. Cities, states, and the federal government must focus efforts on meeting specific regional demands while maintaining equity—bus transit receives only 31 percent of the capital funds spent nationwide for transit, although it accounts for 50 percent of trips.<sup>63</sup> Additionally, improvements in public transportation can often result in increases in property value, making it difficult for poor families to stay in their homes. Governments will need to mitigate this effect by investing in affordable housing along desirable routes, as well as integrating childcare facilities, places of employment, grocery stores, and health clinics along those same lines.

Affordable housing, a fair wage, and reliable, affordable transportation is a good foundation and can make a significant dent in poverty, but more will be needed for those who cannot escape the grips of poverty. Government at all levels will need to focus efforts on improving access to the resources integral to family and student success, necessities like nutrition, affordable, comprehensive healthcare, and childcare. Currently, assistance does not do enough to meet family needs and lift families to a place where they can help themselves. In 2009, for example, only one in five eligible families received a childcare subsidy in an average month, and in 2013, 54 percent of families receiving Supplemental Nutrition Assistance Program (SNAP) benefits were still food insecure.<sup>64</sup>

Closing the achievement gap cannot occur without first recognizing the symptoms of poverty and addressing the factors that perpetuate it. As stated, poverty is not destiny. All we need is the will to implement a multi-pronged effort to both treat and prevent poverty from the onset.

The list of policies and practices mentioned is by no means exhaustive. Additional evidence-based solutions can be found within the NEA's Great Public Schools (GPS) Indicators Framework located at [nea.org/gpsindicators](http://nea.org/gpsindicators).

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