

Merrimack College

Merrimack ScholarWorks

Honors Program Contracts

Honors Program

Fall 12-2022

Impact of Poverty on Education and Success

Briana Normandin

Follow this and additional works at: https://scholarworks.merrimack.edu/honors_component

 Part of the Education Commons

Impact of Poverty on Education and Success

Honors Contract Paper

Briana Normandin

December 8, 2022

Impact of Poverty on Education and Success

Not only does poverty impact a child's physical health, mental health, social development, and education, but the success and trajectories for their future. Poverty has been shown to reduce a child's chances of graduating from high school or pursuing higher education. Children enduring food insecurity are more likely to suffer from developmental impairments such as learning disabilities, impaired motor skills and speech, and behavioral issues.

Prevalence Rates:

In 2021, the poverty rate in America was at 11.6% which translates to about 38 million Americans, 3.7 million of which are children (Census Bureau, 2022). According to the United States Department of Agriculture (USDA), food insecurity currently affects nearly 50 million people nationwide and 87% of households with children under the age of 18 experienced food insecurity in 2022. In Massachusetts, there are over 550,000 people facing hunger and 120,250 of them are children which is about 1 in 11 children (Feeding America, 2020). Furthermore, one in six households reported the inability to afford food (Census Bureau, 2021; Food Research and Action Center as cited in American Youth Policy Forum, 2015). In just Lawrence alone, 90 thousand citizens are food insecure and 30% of residents live below the poverty line (Census Bureau, 2021) About one-third of children in Lawrence live in poverty and 75% of school-aged children qualify for government assistance subsidized food programs, meaning three out of four children are at risk for food insecurity (Census Bureau, 2021).

From the 1980's through the 1990's, many immigrants from the Dominican Republic and Puerto Rico began coming to Lawrence, attracted to the large amounts of cheap housing (Kala & Jones, 2006). People started working in the many factories across the city which included poor pay for long and laborious work hours. Additionally, many of the immigrants experienced

difficulty obtaining a sufficient enough paying job due to stereotyping and language barriers. Moreover, the potential language barrier can make it especially challenging for parents to fill out necessary forms for their children to participate in free or reduced prices in food programs. This forced families to make difficult financial decisions which impacted the children's health and education.

Poverty and Future Success:

Children being raised in low-income households have more than a 90% chance of having one or more problems with speech, learning, or emotional development (Brooks-Gunn & Duncan, 1997). Students from impoverished homes also tend to have lower levels of verbal and reasoning skills compared to their peers. A lack of food or proper nutrition may cause distractions to a child's learning due to the stomach pains and constant concern about financial issues or how they are going to get their next meal. Experiencing poverty and/or food insecurity also increases the chances of a student getting bullied which harms the child's mental health and motivation to do well. Furthermore, food insecurity may also lead many children to have to take on complex responsibilities which increases stress and the potential for developing a mental illness. This takes away from their time to focus on schoolwork, socialize, and explore their interests and identity.

In 2009, the children from the bottom 20% of family incomes were five times more likely than families with higher incomes to withdraw from high school before earning their diploma (American Psychological Association [APA], 2013). Additionally, 37% of children raised in poverty do not finish high school and those who do not get their diploma by the age of 20 are more likely to be persistently poor (Boghani, 2017). Furthermore, only 16% of low-income students graduate college according to the National Center for Education Statistics. Without the

proper skills and education acquired from proper schooling, it is very difficult to get hired for a well-paying job. According to the Georgetown Center of Education, only 12% of jobs accept applicants with less than a high school diploma and no more than 24% of jobs hire individuals that only have a high school level of education (2020). It is also nearly impossible for individuals to make the changes necessary to place above the poverty line without adequate education or access to resources. Crime may offer a way in which impoverished individuals with a lack of education can obtain material goods that they cannot attain through legitimate means. People cannot choose what household and situation they are born into that places them at a disadvantage.

Poverty and the Brain:

Unfortunately, the most affordable food is the unhealthiest, making it difficult to purchase nutritious meals. Nutritious meals are essential for brain growth and increase the production of new neurons and the strengthening of neuronal connections (Deoni et al., 2016). The more connections one has, the better one can think, learn, and memorize (Ahmad et al., 2021). Moreover, research has shown that children who are malnourished have smaller brains than what is typical for their age group due reduced myelination and a lack of adequate protein and calories (Webster, 2022). Myelination helps provide the foundation for brain connectivity and supports the development of cognitive and behavioral functioning (Prado & Dewey, 2014). This often leads to a lower IQ and poor language and fine motor development (Hackman & Farah, 2009; Webster, 2022). Poor nutrition can also lead to iron deficiencies resulting in cognitive deficits which can be irreversible (Prado & Dewey, 2014) Recent studies have also found that children from low socioeconomic households have substantially less gray matter in the frontal and parietal lobes than children in higher income families (University of Wisconsin-

Madison [UWM], 2013). This results in impairments to a child's ability to learn and perform well in school. Early exposure to poverty has also been linked to a smaller hippocampus which plays a crucial role in memory function, attention, mood, and stress regulation (Ahmad et al., 2021; UWM, 2013)

Children growing up in low-income families display higher levels of activity in the amygdala brain region which is associated with the fight or flight response due to stimuli evoking fear (Blair & Raver, 2016). This can be attributed to a variety of reasons such as increased responsibilities, crime in the neighborhood, hunger pains, concern surrounding when they may get to eat again, or the financial burden in the household which may also result in relationship conflicts. After the amygdala is stimulated, it triggers the hypothalamus pituitary adrenal axis (HPA) which regulates the release of cortisol. Constant HPA activation caused by the chronic stress conjured up by poverty can lead to a multitude of problems such as the development of anxiety, behavioral and emotional issues, and potentially lasting damage to the hippocampal structure and function (Ahmad et al., 2021). All of these challenges create obstacles and interfere with a child's academic success.

Decision-Making:

Children who experience food insecurity are almost twice as likely to be poor in health and are significantly more likely to be hospitalized compared to children who receive enough calories and proper nutrients (Feeding America, 2022). Due to the children's poor health and compromised immune system, they may lack the energy necessary for school or may fall too ill to attend. Students may also have to prioritize their other responsibilities such as taking on a job instead of attending school. Eventually, all of these absences from school add up and a lack of education can lead to a lack of fundamental critical thinking for decision-making. Poverty also

impacts the brain's ability to make decisions through evaluation of potential long-term consequences. Decision-making involves communication between the prefrontal cortex and the hippocampus, or in other words, the working memory and long-term memory (Moghadam et al., 2019). In order to make the best decisions, the brain needs to know the context to predict the potential action's results (Moghadam et al., 2019). To help with this process, the brain relies on knowledge stored in the hippocampus and the prefrontal cortex to approximate the goal (Saberi Moghadam et al., 2019). The prefrontal cortex has connections to other brain regions that support executive functioning, working memory, inhibitory control, and reward processing for decision-making (Saberi Moghadam et al., 2019). Increased stress due to poverty and a lack of nutrition may lead to a decrease in ability to properly think through decisions and lead to more instant reward seeking decisions (De Bruijn & Antonides, 2022).

Poverty also encourages trade-off thinking where families often have to make a difficult decision between two necessary items such as taking time off from work to visit the doctor or going to work in order to afford dinner (De Bruijn & Antonides, 2022). Income volatility places individuals in a vulnerable situation, especially with current or upcoming expenditures. This results in the depletion of cognitive resources leaving less executive control, attention, and working memory available for nonessential demands. Therefore, financial scarcity may lead one to act on counterproductive behaviors that ultimately may perpetuate their state of poverty (De Bruijn & Antonides, 2022). For example, one may decide to commit theft in order to be able to feed their family. Moreover, people behave differently when they perceive something like time or money to be scarce. This leads them to make poor decisions without thoughtful consideration for long-term consequences or goals because there are too many urgent items to focus on. This

can be likened to how a computer operates slowly when too many tabs are open and the computer begins to have errors because there are too many things running at once.

Poverty and Crime:

Environments experiencing extreme poverty and violence often encourage people to adopt criminal or violent lifestyles in order to fit in with the community around them or for a lack of better options to obtain their necessities. Children are highly impressionable and look to older peers and adults to learn how they are supposed to act and behave. For instance, in the famous social learning theory experiment with the Bobo doll conducted by Bandura and Ross in 1961, when children observed adults acting violently towards a clown-doll (“Bobo”), and were then given the chance to interact with the doll, they mimicked the aggressive behavior (Bouton 99). However, in a different group where children witnessed nurturing behavior towards the doll, they mirrored the same peaceful behavior (Bouton 99). This suggests that children that grow up in neighborhoods with high levels of crime may also adopt similar activities because that is how they perceive the way in which society works.

Poverty also leads to a higher crime rate and according to the Bureau of Justice Statistics, households below the federal poverty level (39.8 per 1,000) have “more than double the rate of violent victimization as persons in high-income households (16.9 per 1,000)” and a “higher rate of violence involving a firearm (3.5 per 1,000)”. Moreover, the nation could “save at least \$18.5 billion dollars in annual crime costs if the high school male graduation rate increased by 5%” (Alliance for Excellent Education, 2013). The situation of poverty and lack of education are deeply connected and create a vicious cycle challenging to escape from. Inadequate education increases the likelihood of poverty and poverty tends to lead to poor education. Due to poverty, children fail to get proper education because there is a lack of funding. There are also many

distractions such as stress and anxiety because of financial issues, hunger, family conflicts, and the chaos in the neighborhoods surrounding them, causing them to receive an improper education. The lack of adequate education can also lead to a lack of fundamental critical thinking necessary to make the right decisions.

Potential Solutions:

Considering how imperative adequate education is to the success of the youth and that they are also our future, it is essential to invest in giving our children the best resources and opportunities to reach their full potential. This means going beyond the needs of education and ensuring that children are healthy for school. One way to do this is to support community schools which partner with stakeholders and were developed to respond to the needs of a child as a whole, including physical and mental health services and resources for after-school care and enrichment (Wynns, 2021). These schools also expand the horizons of learning, focus on working together to realize a shared vision, and support the needs of those who require additional academic support such as providing tutoring services (The National Education Association, 2022). Furthermore, schools may choose to implement more extracurricular activities for children to get involved in as a way to keep them off the streets after school hours and to foster socialization in a safe environment. Another option is to implement a stop in the bus route at a local Boys and Girls Clubs. Boys and Girls Clubs are designed to empower the youth to excel in school and take leadership by providing programs for education, health and wellness, workforce readiness, leadership, the arts, and sports (Boys and Girls Clubs of America [BGCA], 2022). According to the Club, 97% of participants expect to graduate high school and 80% plan to enroll in higher education (BGCA Youth Data, 2022). Additionally, 89% of participants expressed that they feel they can stand up for what is right (BGCA Youth Data, 2022).

According to the U.S. Department of Education school budgets are primarily instructional costs (61%), followed by support services (35%), food services 4%, and enterprise operations 1%. Redirecting funding to start a breakfast program would fulfill one-fourth to one-third of the day's energy and nutrient needs for the suffering child, increasing their ability to concentrate, behave, and perform academically (The Food and Nutrition Service, 2012). Schools that choose to participate in the School Breakfast Program can also receive reimbursements from the USDA for every meal they serve (Feeding America, 2020). Research has found that children who participated in the Breakfast Program had better grades and improved memory (Center for Disease Control and Prevention, 2022). Furthermore, 1.54 million students pay full price for school meals they cannot afford (Education Data Initiative, 2021). Therefore, schools may also consider implementing the National School Lunch Program which is a federally assisted meal program which provides nutritionally balanced and low-cost or free lunches to children at school (USDA, 2022). Another incredibly beneficial program is the Backpack Program which offers families free groceries that are easy to prepare over the weekends and those times that school is not in session so that children still have access to food (Feeding America, 2020). The Program operates through the Feeding America organization which partners with community centers, Boys and Girls Clubs, and schools to aid in backpack distribution to children (Feeding America, 2020).

Throughout the past several decades, policymakers have gradually attempted to improve the life of low-income families by providing access to safe neighborhoods with better schools and increased opportunities and resources through the implementation of “Promise Neighborhoods” (Sard & Rice, 2014). This relies on housing vouchers which allows families to choose their neighborhood rather than being limited to government-funded projects that often

generate housing in impoverished neighborhoods with higher rates of crime and that are often segregated from other neighborhoods (Sard & Rice, 2014). Promise Neighborhoods are a federal-based initiative established under the legislative authority of the Fund for The Improvement of Education Program with the goal of transforming communities and significantly improving educational as well as developmental outcomes of children in the most distressed communities (U.S. Department of Education, year). Low-income students moved to less impoverished neighborhoods and attending low-poverty schools increased academic performance with a period of five to seven years compared to those who stayed in moderately high-poverty neighborhoods and schools (Sard & Rice, 2014).

Conclusions:

Poverty can negatively affect how the body and mind develops. High-poverty neighborhoods are often stress inducing and have high crime rates that are harmful to a child's cognitive development, academic performance, and long-term physical and mental health. Poverty is a vicious cycle which creates limited access to resources and opportunities, leading to poor education with a lack of job opportunities and as a result ultimately may lead to crime. Inadequate education increases the likelihood of poverty and poverty tends to lead to poor education and decision-making. Without the proper skills and education acquired from proper schooling, it is very difficult to get hired for a well-paying job. It is also nearly impossible to make the changes necessary to place above the poverty line. Crime offers a way in which impoverished people with a lack of education can obtain material goods that they cannot attain through legitimate means. The inequality of opportunity and circumstance makes it nearly impossible to escape this vicious cycle.

References

Ahmad, F., Hasan, H., Abdelhady, S., Fakhri, W., Osman, N., Shaito, A., & Kobeissy, F. (2021, August 3). *Healthy meal, happy brain: How diet affects brain functioning*. *Frontiers for Young Minds*.

<https://kids.frontiersin.org/articles/10.3389/frym.2021.578214>

Alliance for Excellent Education. “Crime Rates Linked To Educational Attainment, 2013 Alliance Report Finds.” *Alliance For Excellent Education*, 12 Sept. 2013, all4ed.org/press/crime-rates-linked-to-educational-attainment-new-alliance-report-finds/.

Blair, C., & Raver, C. C. Poverty, stress, and brain development: new directions for prevention and intervention. *Acad Pediatr*. 2016; 16 (3): S30–6. doi: 10.1016/j.acap.2016.01.010.

Boghani, P. (2017). *How poverty can follow children into adulthood*. PBS.

<https://www.pbs.org/wgbh/frontline/article/how-poverty-can-follow-children-into-adulthood/>

Bouton, Mark E. “Modules 3-6: Understanding Ourselves and the World Around US: Conditioning and Learning.” *Exploring Psychology a Noba Text*, Noba, Carrie Pykett, pp. 99–99. <https://nobaproject.com/textbooks/carrie-pykett-new-textbook>

Boys & Girls Clubs of America. (2022). *Our mission & story*. Boys & Girls Clubs.

<https://www.bgca.org/about-us/our-mission-story>

Brooks-Gunn, J., & Duncan, G. J. (1997). The effects of poverty on children. *The future of children*, 55-71.

Carinne Deeds. (2015). *Food for thought: How food insecurity affects a child's education*. American

Youth Policy Forum. <https://www.aypf.org/blog/food-for-thought-how-food-insecurity-affects-a-childs-education/>

- Carnevale, A. P., Smith, N., & Strohl, J. (2020, December 8). *Georgetown University Center on Education and the Workforce*. CEW Georgetown. <https://cew.georgetown.edu/>
- Centers for Disease Control and Prevention. (2022, September 19). *Eating healthier at school*. CDC Healthy Schools. https://www.cdc.gov/healthyschools/features/eating_healthier.htm
- De Bruijn, E. J., & Antonides, G. (2022). Poverty and economic decision making: a review of scarcity theory. *Theory and Decision*, 92(1), 5-37.
- Deoni, S., O'Muircheartaigh, J., Elison, J. T., Walker, L., Doernberg, E., Waskiewicz, N., & Jumbe, N. L. (2016). White matter maturation profiles through early childhood predict general cognitive ability. *Brain Structure and Function*, 221(2), 1189-1203.
- Deoni, S., Dean III, D., Joelson, S., O'Regan, J., & Schneider, N. (2018). Early nutrition influences developmental myelination and cognition in infants and young children. *Neuroimage*, 178, 649-659.
- Feeding America. (2020). *Backpack program*. Feeding America. <https://www.feedingamerica.org/our-work/hunger-relief-programs/backpack-program>
- Feeding America. (2022). *Hunger in Massachusetts*. Feeding America. <https://www.feedingamerica.org/hunger-in-america/massachusetts>
- Feeding America. (2022, May 5). *Children and families*. Hunger and Health. <https://hungerandhealth.feedingamerica.org/explore-our-work/programs-target-populations/children-and-families/>

Fisher, Kristy A., and Manassa Hany. "Antisocial Personality Disorder." *National Center for Biotechnology Information*, U.S. National Library of Medicine

The Food and Nutrition Service. (2012). *Nutrition Standards in the National School Lunch and School Breakfast Programs*. Federal Register .

<https://www.federalregister.gov/documents/2012/01/26/2012-1010/nutrition-standards-in-the-national-school-lunch-and-school-breakfast-programs>

Hackman, D. A., & Farah, M. J. (2009). Socioeconomic status and the developing brain. *Trends in cognitive sciences*, 13(2), 65-73.

Hanson, M. (2021, December 15). *School Lunch Debt* . Education Data Initiative.

<https://educationdata.org/school-lunch-debt>

Kala, M., & Jones, C. (2006). *Latinos in Lawrence, Massachusetts: A fact sheet* . The immigrant learning Center.

https://www.immigrationresearch.org/system/files/Demographic_Lawrence_06.pdf

Moghadam, S. S., Khodadad, F. S., & Khazaeinezhad, V. (2019). An algorithmic model of decision making in the human brain. *Basic and Clinical Neuroscience*, 10(5), 443.

Prado, E. L., & Dewey, K. G. (2014). Nutrition and brain development in early life. *Nutrition reviews*, 72(4), 267-284.

The National Education Association. (2022). *Community schools*. NEA. Retrieved December 8, 2022, from <https://www.nea.org/student-success/great-public-schools/community-schools>

Rumberger, R. W. (2013). *Poverty and high school dropouts*. American Psychological Association.

<https://www.apa.org/pi/ses/resources/indicator/2013/05/poverty-dropouts>

Sard, B., & Rice, D. (2014, October 15). *Creating opportunity for children*. Creating Opportunity for Children: How Housing Location Can Make a Difference.

<https://www.cbpp.org/research/creating-opportunity-for-children>

U.S. Census Bureau. (2021). *U.S. Census Bureau quick Facts: Lawrence City, Massachusetts*.

Retrieved from <https://www.census.gov/quickfacts/lawrencecitymassachusetts>

U.S. Department of Agriculture. (2022). *National School Lunch Program*. Food and Nutrition Service.

<https://www.fns.usda.gov/nslp>

U.S. Department of Agriculture. (2022, October 17). *Key Statistics & Graphics*. USDA ERS - Key

Statistics & Graphics. <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-u-s/key-statistics-graphics/#foodsecure>

University of Wisconsin-Madison. (2013). *Poverty fact sheet: Brain drain: A child's brain on poverty*.

Institute for Research on Poverty. https://morgridge.wisc.edu/wp-content/uploads/sites/4/2017/02/Brain_Drain_A_Childs_Brain_on_Poverty.pdf

Webster, R. (2022, April 22). *How does nutrition affect the developing brain?*ZERO TO THREE.

<https://www.zerotothree.org/resource/how-does-nutrition-affect-the-developing-brain/>

Wynns, J. (2021, January 13). *Community schools*. ED100. <https://ed100.org/blog/community-schools>