

**Public Housing and Public Schools:
Are Subsidized Residents at an Educational Disadvantage?**



Photo credit: Cliff Tew

Final Report to the Spatial Justice Studio

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Introduction

This research examines the relationship between the siting of federally subsidized housing and the quality of public schools closest to residents of those homes. Specifically, I ask whether residents of public housing developments, subsidized apartment communities, and the Housing Choice Voucher Program (Section 8) in Forsyth County, North Carolina face disadvantages in the quality of their neighborhood public schools. In this final report, I compare the quality of schools in local districts of children in these types of housing to countywide averages.

Background and Setting

The injustice of low-income communities' diminished access to quality education has long been a topic of scholarly research. Although the public school system in this research, Winston-



Salem Forsyth County Schools (WSFCS), operates on a “school choice” model of enrollment that permits parents to select from a wider geographic zone, previous research has shown that low-income parents face constraints in their ability to take advantage of options outside of their immediate neighborhoods. These barriers include transportation, travel distance, food insecurity, and residential mobility (Theodos, Coulton, & Budde, 2014; He & Giuliano, 2018).

In Forsyth County, poverty is becoming more concentrated (Smith, 2019). Rothstein (2015) found that when low-income residents cluster in certain geographic areas, it leads to a clustering of social problems at the schools that serve those residents. Because poorer neighborhoods tend to have lower-quality public schools, this spatial concentration of poverty

closely ties low-income residents to diminished educational opportunities, which in turn perpetuates generational poverty. Furthering the urgency of this research, Forsyth County has among the lowest rates of upward economic mobility in the nation (Chetty & Hendren, 2015).

While numerous studies have looked at the relationship of *neighborhood* and school quality, few have examined the *types of housing* that might play a role in this relationship. Recent research has shown that landlords largely refuse to accept Housing Choice Vouchers (formerly known as Section 8) anywhere but in the poorest neighborhoods (Mazzara & Knudsen, 2019). Legislation to prohibit landlords from discriminating against renters based on source of income has been introduced, but faces stiff opposition. On the other hand, rental housing where the U.S. Department of Housing and Urban Development (HUD) has more leverage in siting – federally subsidized units and public housing – can potentially be located near better educational opportunities, which could lead to better outcomes for the children who grow up there.

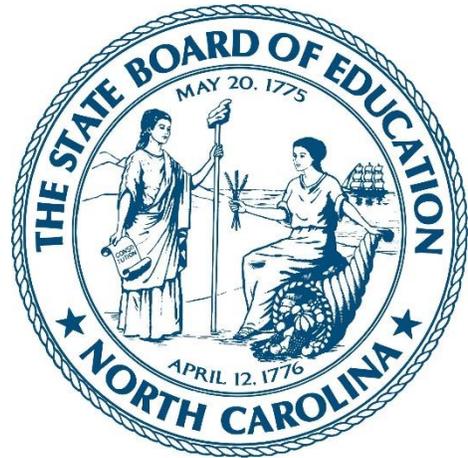
Research Design

Using data from the HUD Resource Locator (<https://resources.hud.gov/>), I have mapped in ArcGIS the locations of both public housing projects and other subsidized housing in which the government pays landlords to reduce rents for low-income tenants (e.g. low-income housing tax credits). These communities were weighted according to their size (measured in number of units), and those designed for older adults were eliminated from the analysis. Additionally, the



Housing Authority of Winston-Salem (HAWS) provided the locations for all properties where housing choice vouchers are in use. I combined these data with

maps of the local districts for each public elementary, middle, and high school in the county, identifying the neighborhood schools for each unit of subsidized housing in the county. I then used 2018-2019 School Performance Score (SPS) data from the North Carolina State Board of Education's Accountability Services Division to ascertain the quality scores of each public school in Forsyth County. With these data, I determined how many subsidized housing units each public school served. Then, based on the enrollment of each school and its SPS, I determined the overall average SPS for public elementary, middle, and high schools throughout Forsyth County.



Analysis

These data provide ample opportunity for statistical analysis. One sample t-tests are used to determine whether school performance scores are significantly different at the neighborhood schools of low-income housing compared to the overall SPS averages in Forsyth County Schools. I break down these analyses for both subsidized complexes and housing choice vouchers. I then provide case studies of two public housing communities and the school enrollment of children living there.

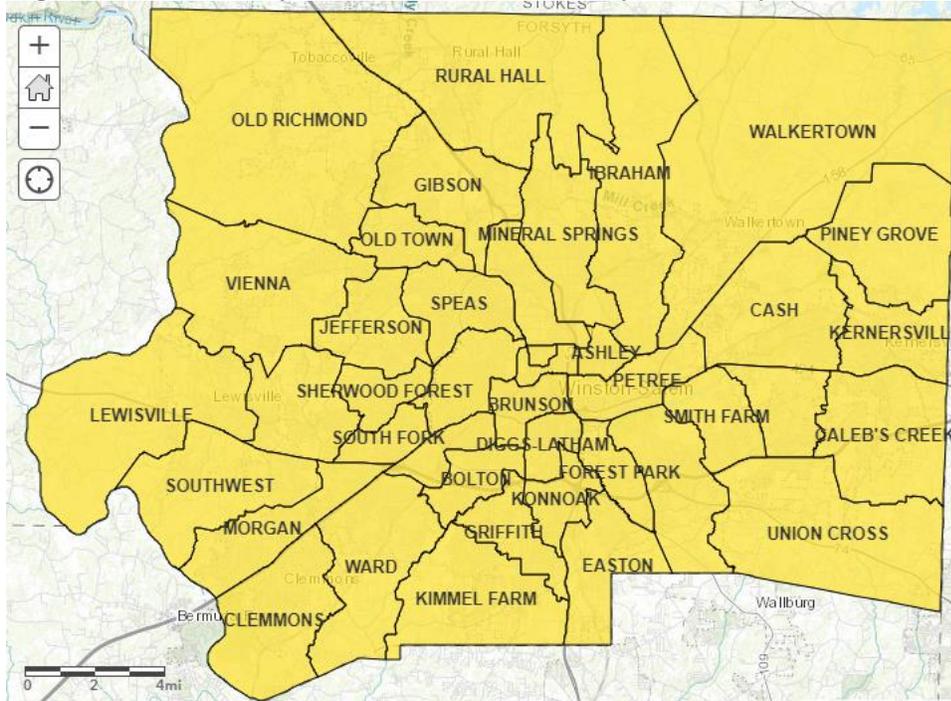
Results

I analyzed the neighborhood schools of 2415 units within subsidized housing complexes and 3500 housing choice voucher addresses. These addresses fed into 41 elementary, 15 middle, and 10 high schools that take their enrollment in whole or in part from delineated territories throughout the county (See Figures 1-6).

Elementary Schools

The overall average SPS for elementary schools (weighted according to enrollment) was 61.96. Forsyth County's average subsidized housing unit was located in an elementary school district with an SPS of 45.12. A one-sample t-test revealed a statistically significant relationship between subsidized housing and lower elementary school quality (see Table 1). The relationship remained significant when broken down both by housing choice voucher units (average SPS = 45.27) and publicly subsidized complex units (average SPS = 44.92).

Figure 1. Elementary School Districts in Forsyth County

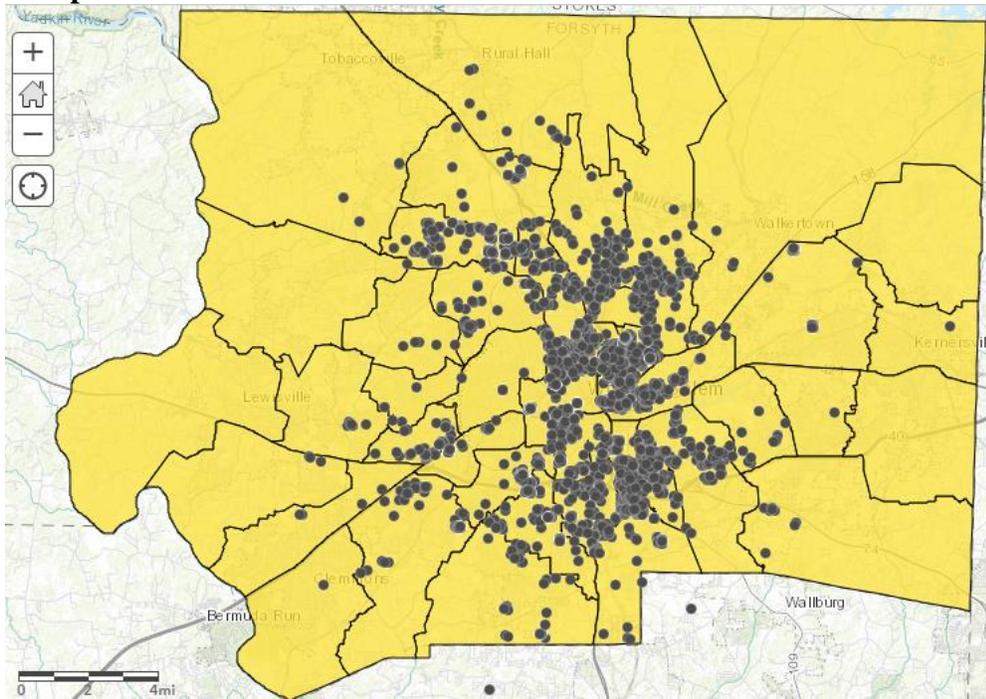


Sources: State of North Carolina DOT, Esri, WSFCS

Scores for elementary schools ranged from 32 on the low-end – Kimberley Park Elementary School with 132 housing choice voucher units and 72 subsidized complex units in its district – to 90 on the high-end – Meadowlark Elementary School with 6 housing choice voucher units and zero subsidized complex units in its district. Ashley Academy, which has made news for mold and air quality deficiencies and is the subject of a U.S. Department of Education's

Office for Civil Rights will investigation for racial discrimination, has an SPS of 34 and a total of 551 subsidized housing units in its district. Only Cook Literacy Model School (SPS 41) and Petree Elementary School (SPS 33) have more subsidized housing units in their districts, with 578 and 556 respectively. After top-ranked Meadowlark Elementary School, the two schools highest scores, Lewisville and Clemmons Elementary Schools (both SPS 88), have zero and one subsidized housing unit in their districts respectively.

Figure 2. WSFCS Elementary School Districts with Subsidized Housing Units and Complexes.



Sources: State of North Carolina DOT, Esri, WSFCS, Hud Resource Locator, HAWS

Table 1. Elementary School Performance Scores and Type of Housing

Housing Type	School Performance Score (SPS)	Mean Difference	t-statistic	Significance
Voucher Unit (n=3500)	45.26	-16.71	-86.97	.000*
Subsidized Complex (n=2415)	44.92	-17.04	-81.20	.000*
Overall Subsidized (n=5915)	45.12	-16.84	-118.33	.000*

Note: Reference group is the countywide average public elementary school SPS, weighted by enrollment = 61.96.

*t-statistic significant at alpha-level .001

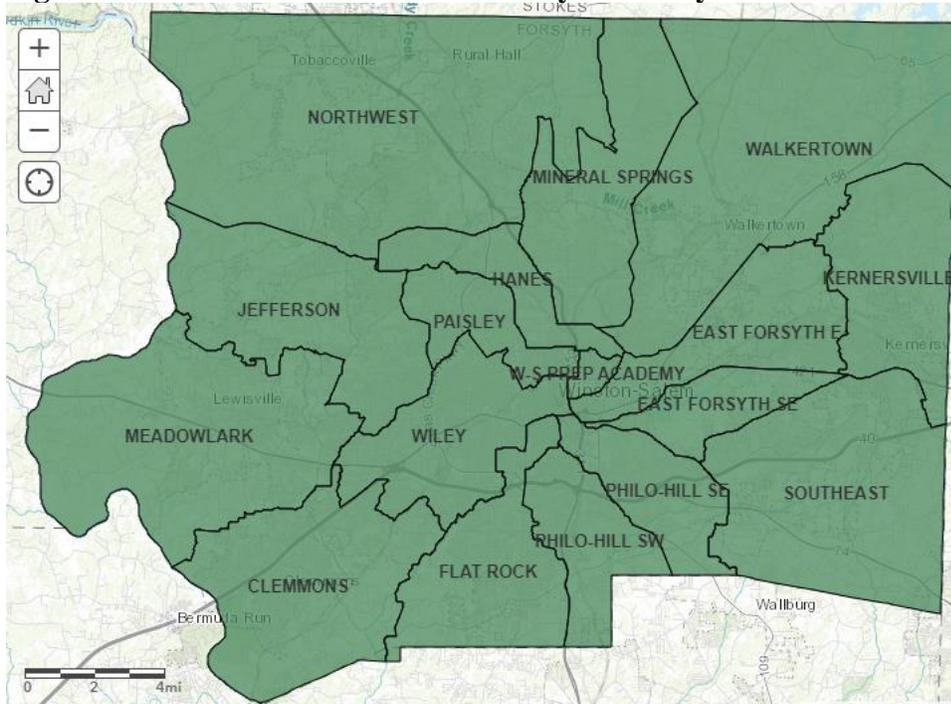
Middle Schools

For middle schools, the overall average SPS (weighted according to enrollment) was 62.43.

Subsidized housing units on average were located in a middle school district with an SPS of 55.72. Again, one-sample t-tests revealed statistically significant relationships between subsidized housing and lower middle school quality, regardless of housing type (see Table 2).

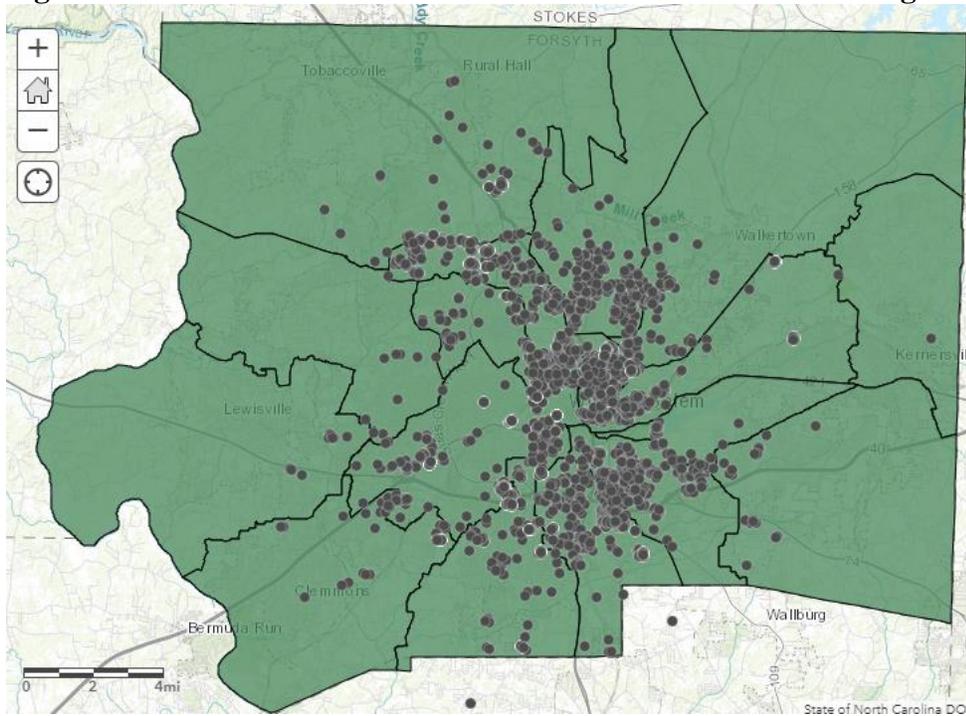
Middle school scores ranged from 84 on the high-end (Meadowlark Middle School with 9 subsidized housing units in its district) to 25 at the bottom (Philo-Hill Middle School with 747 subsidized units in its district). The most subsidized units (1541) were found in the Hanes Magnet School district (SPS 77). However, while school appears to be a high-quality diverse option, it's Highly Academically Gifted (HAG) program often excludes the low-income and minority children who reside in its district. Kernersville Middle School (SPS 75) had the fewest subsidized housing units in its district with zero.

Figure 3. Middle School Districts in Forsyth County.



Sources: State of North Carolina DOT, Esri, WSFCS

Figure 4. WSFCS Middle School Districts with Subsidized Housing Units and Complexes.



Sources: State of North Carolina DOT, Esri, WSFCS, Hud Resource Locator, HAWS

Table 2. Middle School Performance Scores and Type of Housing

Housing Type	School Performance Score (SPS)	Mean Difference	t-statistic	Significance
Voucher Unit (n=3500)	52.67	-9.76	-33.19	.000*
Subsidized Complex (n=2415)	60.13	-2.29	-6.49	.000*
Overall Subsidized (n=5915)	55.72	-6.71	-29.06	.000*

Note: Reference group is the countywide average public middle school SPS, weighted by enrollment = 62.43.

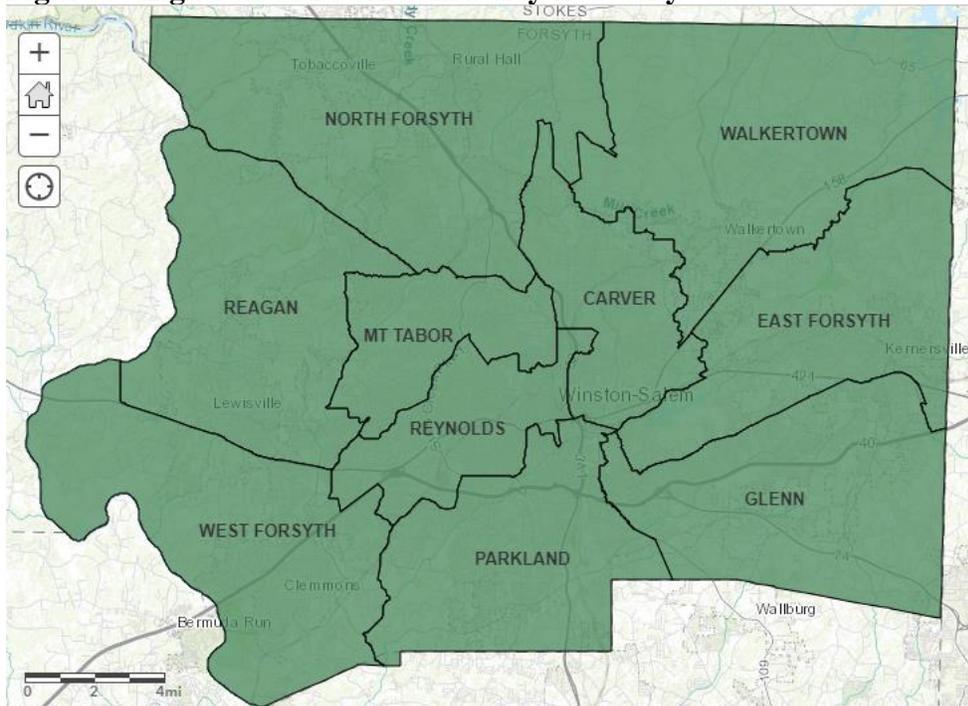
*t-statistic significant at alpha-level .001

High Schools

Lastly, for high schools, the overall average SPS (weighted according to enrollment) was 69.05.

The average subsidized housing unit in Forsyth County was located in a high school district with an SPS of 57.97. Once again, one-sample t-tests revealed significant relationships between subsidized housing and high school quality, regardless of housing type (see Table 3).

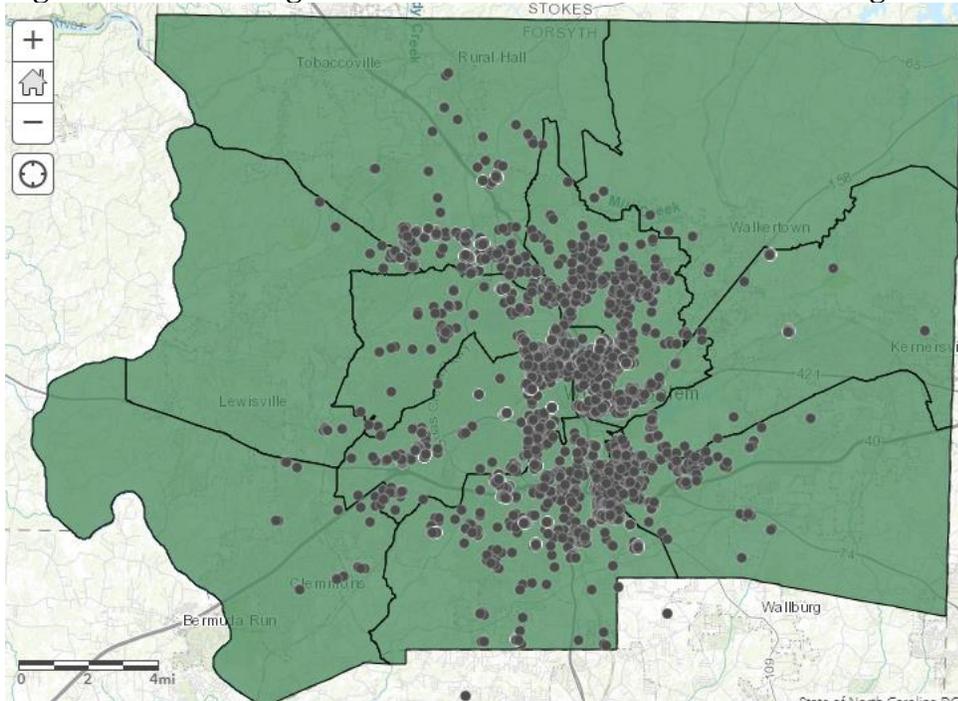
Figure 5. High School Districts in Forsyth County



Sources: State of North Carolina DOT, Esri, WSFCS

The high school with the highest score, Ronald Reagan High School (SPS 87), had 31 subsidized housing units in its district. At the other end of the spectrum, the lowest scoring high school, North Forsyth High School (SPS 49), had 951 subsidized housing units in its district. Carver High School (SPS 54) had the most subsidized housing units in its district with 1,692. Walkertown High School (SPS 62) had the fewest with 7.

Figure 6. WSFCS High School Districts with Subsidized Housing Units and Complexes.



Sources: State of North Carolina DOT, Esri, WSFCS, Hud Resource Locator, HAWS

Table 3. High School Performance Scores and Type of Housing

Housing Type	School Performance Score (SPS)	Mean Difference	<i>t</i> -statistic	Significance
Voucher Unit (n=3500)	58.80	-10.25	-71.781	.000*
Subsidized Complex (n=2415)	56.76	-12.29	-78.85	.000*
Overall Subsidized (n=5915)	57.97	-11.08	-104.00	.000*

Note: Reference group is the countywide average public high school SPS, weighted by enrollment = 69.05.

**t*-statistic significant at alpha-level .001

Case Study – Piedmont Circle

This section focuses on the schools attended by students one of the city's oldest surviving public housing communities, Piedmont Park (known to most residents as Piedmont Circle). The unique history of the development and its neighborhood schools provides a compelling story of social problems, as well as issues in the county school system.



Photo credit: WGHP

Built in 1952 when Jim Crow restrictions extended to public housing, the city reserved Piedmont Circle exclusively for whites. It lies twelve blocks north of another public housing complex, Cleveland Avenue Homes, which was reserved exclusively for African Americans. After the 1964 Civil Rights Act desegregated public housing, the complex, along with the nearby working-class neighborhood of Brookwood, quickly became predominantly African American (Fuller & Hinton, 2012). Today, the public housing community's population remains predominantly African American. It struggles with deteriorating housing, infrastructure, and social problems such as crime, poverty, and food insecurity.

Its children live in the local district of North Hills Elementary (SPS 48), which scores well below the weighted countywide average SPS of 61.96. WSFCS data for the 2019-2020 school year show 45 out of 73 (61.6%) children living in Piedmont Circle attending their district elementary school. As for the school choice model, only one of the five elementary schools that Piedmont Circle residents are zoned for, Old Richmond Elementary School (SPS 74), has a better rating than the countywide average. It is 17.5 miles away from the community. WSFCS does not offer bus transportation to Old Richmond for the children of Piedmont Circle, nor does the city's public transportation system. In 2019-2020, only 6 out of 73 (8.2%) elementary school attending children living in Piedmont Circle attended Old Richmond.

Discussion

For every type of subsidized housing (housing choice voucher, subsidized apartment communities, and public housing complexes) children, on average, reside in districts with lower-quality schools. The gap is largest for elementary schools, followed by high schools, and then middle schools. This research adds to the understanding of educational disadvantage for low-income children and the perpetuation of generational inequalities. Stark differences can be seen between the number of subsidized households located in the districts of schools with best and worst scores, as well as the most and fewest subsidized units.

This research brings attention to a number of public policy issues. The school choice model adopted by WSFCS has long been criticized as a tool for resegregation that secured the rewards of white flight and placed the onus of integration on minority parents already struggling with financial and other constraints. Preliminary findings from this research suggest that the vast majority of children from public housing are trapped in underperforming local districts through

no fault of their own. As a result, investments in the public schools of their communities should be a top priority for policymakers.

Secondly, public housing has long been seen as undesirable to wealthier communities. However, any new construction of public housing must be sited in close proximity to quality schools, as well as other resources like healthy food sources, transportation, and employment opportunities, if the needs of children living there are to be addressed. Although the last several decades have witnessed massive disinvestments from public housing, the need for it has only increased, with roughly three-quarters of families who qualify for housing assistance unable to get it (Desmond, 2016).



Directions for Future Research

While performance scores provide a useful quantitative measure of school quality, other measures should be implemented to understand the school selections and experience of parents and children from subsidized housing. Qualitative interviews to understand the process involved in these selections might hint at the difficult circumstances that factor in these decisions.

Additionally, other measures of school quality, such as teaching supports, peer environments, and building conditions would add to the nuance of this research.

Conclusion

This research highlights the spatial inequalities residents of subsidized housing face regarding their neighborhood schools. Its implications for constrained upward mobility and the perpetuation of intergenerational poverty should be noted by both housing and education

policymakers. Measures should be taken immediately to address the inequities faced by children located “outside the lines” of quality schools.

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