An Analysis of the Secondary Outcomes of Federal Housing Assistance

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## Abstract

This paper explores the relationship between different types of federal housing assistance and the secondary outcomes of children's health and education. With almost three million people nationwide receiving federal housing assistance from either traditional housing projects or Section 8 Housing Choice Vouchers, it is imperative to analyze the indirect effects of receiving assistance. I will analyze the ancillary effects of access to health care, child's physical health, child's emotional health, and child's attachment to education by using data from the National Survey of America's Families. By comparing only those eligible for Department of Housing and Urban Development housing assistance programs, I will be able to control for a number of potentially confounding factors such as income level. Analyzing indirect effects on the children receiving government assistance avoids the probable reverse causation of education level achieved and poor health by adults who now receive federal housing assistance. I expect that those who receive Section 8 Housing Choice Vouchers will have better access to care, health, and education than those in traditional public housing. I believe this will be due to the ability for those with vouchers to move to a neighborhood of their choice, whereas, those in traditional public housing are forced to live in neighborhoods with higher concentrations of poverty and its ancillary effects of poor schools, reduced access to health care, and reduced access to fresh produce. However, contrary to my expectations those in traditional public housing fared better on each of the outcomes than those receiving Section 8 Vouchers. It is important to note that while the results were statistically significant, they were not large enough to be practically significant.

#### Introduction: Research Area, Topic and Purpose

According to the Department of Housing and Urban Development's (HUD) 2003 report, over 1,094,000 tenants live in traditional public housing and an additional 1,800,000 people receive Section 8 Housing Choice Vouchers. Providing federal housing assistance for almost three million people represents a large expenditure of American taxpayers' dollars. It is imperative that we analyze these two programs to see if they are producing the desired results.

The first and most important result of public housing is the immediate provision of housing for those in need. Both traditional public housing and vouchers accomplish this. However, there are a number of secondary outcomes influenced by programs as well. Secondary outcomes can range from educational opportunities and access to health care based on the location of the housing, to health outcomes due to the effects of the type of housing. Theoretically, these secondary outcomes could be connected to housing because of the effect of environment on residents. Actual location could affect ability to access quality care due to physical proximity. The presence or absence of fresh produce in local stores, the presence or absence of mold and asbestos in the residence, and the local culture could impact health. Furthermore, educational opportunities could change based on physical location of residence due to which public school is available to the tenant. Finally, community has a large role in behavior as well as people learn about health and educational norms from their peers.

#### Research questions: General and specific

This research compares the difference in the secondary outcomes of education and health care for two different federal housing assistance programs. Specifically, I will analyze the difference in education, health access, and overall health status between child residents in traditional public housing and child participants in the Section 8 Housing Choice Voucher

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Program. By focusing on children, I can avoid some of the reverse causation of analyzing these outcomes with adults who receive federal housing assistance.

#### Literature Review

#### Poverty

Poverty is a widespread problem in the United States. According to the US Census Bureau, the poverty rate in the United States for 2009 was 14.3 percent. Poverty impacts a diverse proportion of the population, including children, elderly, single parent families, two parent families, and all races (Blank, 1997). Blank explains that the primary cause of poverty throughout these groups is the absence of economic opportunities available to unskilled workers. She also notes that wage rates for unskilled jobs have continued to decline in this nation, further exacerbating the problem.

Poverty is a cyclical problem in which families rise just above the federal poverty line only to fall back below it. The two predominant reasons people drop below the poverty line are if there is a change to their family structure or a major economic loss (Blank 1997). Rarely, will an impoverished family escape from poverty for more than a brief time. Because the poverty line is a measurement of a family's income, there are a number of families that may receive just enough income to be above the poverty line one year only to have a change to their family structure or an economic loss the next year. Because many families live so close to the poverty line it only takes a small alteration in their lives to bring them into poverty. As such, Blank's central message "is to avoid simple explanations for poverty and false promise of simple solutions. There is no single cause of poverty and there is no easy way to abolish it. The challenge is to build a balanced system while relies on the contributions of many different groups and programs" (Blank 1997). Blank asserts that we must work to create a diverse system of public assistance programs to ensure that every citizen has the ability to live humanely.

#### Government Intervention: Housing

The government attempts to create this balanced system by intervening in the market through federal housing assistance. There are three main programs that the Department of Housing and Urban Development (HUD) funds in order to make rent more affordable for lowincome families. Currie (2006) outlines each of these programs.

The program that most people think of when they hear "public housing" is traditional, project based, public housing. The government, through local housing authorities, awards contracts to developers to build housing units. These units often take the form of concrete high rises that have come to be colloquially known as projects. Local housing authorities then manage the buildings and lease the units to low income families for a set percentage of their monthly income (Currie 2006).

The second and rapidly increasing form of federal housing assistance is the Section 8 Housing Choice Voucher Program. Section 8 vouchers allow families to determine their own housing, as long as the rental unit is below the market level for rent in the area and has specific living conditions. The family pays thirty percent of their income level as rent and the government pays the difference directly to the landlord (Currie 2006).

The third program is the Low Income Housing Tax Credit (LIHTC). This program provides tax credits to developers who set aside a percentage of their units for low-income families with rent maintained at only a fraction of their income. The artificially low rent must be maintained for 30 years (Currie 92). This program is also growing at a rapid pace, though there have been numerous instances of corruption and noncompliance. However, as tenants in these developments are often not surveyed, this program is not within the focus of this paper.

# Traditional Housing

The focus of this paper is upon the differences between traditional public housing and Section 8 Housing Choice Vouchers. These programs are the government's attempt to correct for inequitable market conditions; however there are a number of problems with the housing assistance programs. For example, traditional public housing has a particularly bad public perception for being crime ridden. In fact, McNulty and Holloway (2000) found that the presence of public housing in a neighborhood has a strong positive correlation with crime rate. The authors suggest that this positive correlation is due to the systemic urban disadvantage characterized by public housing projects. Furthermore, The National Commission on Severely Distressed Housing found that eight percent of public housing units are in unlivable conditions (Cavanaugh 2010). Section 8 vouchers provide an alternative to such dire living conditions. This sort of reputation has led many families to seek out Section 8 Housing Choice Vouchers as an alternative to traditional public housing. Their hope is that Section 8 Vouchers will allow them affordable rent in areas with less crime and better opportunities.

#### Section 8 Housing Choice Vouchers

In fact, the Section 8 voucher program has now become so popular that HUD has more program participants in the voucher program than participants in traditional public housing (Weimer and Vining 2011). As stated earlier, much of the consumer driven increase in Section 8 Vouchers is driven by families wanting to escape the poor living conditions of traditional public housing. On the supply side, the government has pushed Section 8 vouchers as an attempt to privatize assisted housing in order to avoid the lack of efficiency associated with large bureaucracies such as HUD and local housing authorities. However, despite HUD surveys there has been no conclusive answer as to whether the voucher program is more cost-effective than traditional public housing units (Weimer and Vining 2011).

## Goals of Housing Assistance

With the cost effectiveness of the three different programs unknown, it is important to assess the goal of federal housing assistance so that the usefulness of these programs can be measured. A central discussion in the literature on government assistance is whether assistance is to be a means or an end. For government assisted housing, the discussion centers around whether the housing is supposed to be a temporary alleviation from which people graduate into renting on their own (i.e., a means) or if it is to be a permanent state for those who are in the program (i.e., an end).

Newman and Harkness (2002) assume that public housing is a means and that subsequent housing without federal assistance is a positive outcome of having lived with government assistance for a brief stint. They find that having lived in public housing for a time reduces government assistance in later life for members of the low-income community. They found that living in public housing as a youth increased a person's likelihood of working between ages 20 and 27, raised the person's annual earnings by almost \$2,000, and reduced welfare use between the ages of 20 and 27. Thus, in their study, public housing is successful as a means to achieve a standard of living where less government assistance is necessary.

#### Health Outcomes

Though the future standard of living is important, it is also necessary to assess how these programs affect those currently receiving assistance. One such way to measure the effectiveness of these programs is through the evaluation of the health outcomes of participants in these

programs. There is much discussion about the widespread problems of obesity in impoverished populations (Fertig and Reingold, 2007). A number of studies have attempted to examine the correlation between assisted housing and health behavior and outcomes (Ellen, Mijanovich, and Dillman, 2001).

Fertig and Reingold (2007) discuss the negative impacts of the lack of access to fresh produce that is often associated with living in traditional public housing. They also explain the culture of unhealthy behaviors that permeates low-income housing. This culture of unhealthy behaviors includes a lack of exercise, a diet high in fat content, and high smoking rates. However, their study found no difference in the 28 health outcomes they measured in those living in public housing and the low-income population as a whole.

#### **Education Outcomes**

Another discussion of secondary outcomes concerns the effect of public housing on the level of educational achievement of children. Some argue that traditional housing projects segregate impoverished families in one part of a city, thus leading to segregated schools as well. The concern is that schools segregated by income level will create schools filled with low income students of low caliber, low levels of parental involvement, low accountability of teachers, and students facing a lack of food security. However, when tested, this assumption does not hold to be true. Currie and Yelowitz (2000) find no statistically significant difference between retention rates of students in traditional public housing units and those who were not living in public housing units.

Another study that attempted to address the problem of schools segregated by income level noted that when families were given Section 8 Housing Choice Vouchers, the educational opportunities for their family did not necessarily improve. Ladd and Ludwig (1997) note that low income families with Section 8 Vouchers are likely to move to areas of town that have similar poverty levels to those of traditional public housing. However, the rare occurrence of families who used the Section 8 Housing Choice Vouchers to move to areas with lower poverty rates did see an increase in educational opportunities for their children.

#### Comparison of the Traditional Housing Assistance and Section 8 Housing Choice Vouchers

The research outlines many effects of living in government assisted housing programs in comparison to the population as a whole. However, there is a gap in the research in the comparison of the health and educational outcomes of those living in the various types of government subsidized housing programs. The only study that comes close is the Ladd and Ludwig (1997) study that measured educational opportunity for children in the Section 8 program. However, it only looked at those participating in Baltimore. It is imperative to determine which program has the best secondary outcomes nationwide. This will help the government decide which program should receive more funding. It would be most salient to measure the outcomes of the participants of the traditional housing assistance programs and the Section 8 Housing Choice Voucher program as their participants are easily identified. However, less data is collected from residents in developments built with the assistance of the Low Income Housing Tax Credit. Furthermore, those who live in LIHTC developments who are not in the low-income bracket often skew this data.

This research is particularly imperative because in the last decade funding for public housing has decreased by nine percent (Bauerlein, 2010). With almost three million people receiving federal housing assistance, the current funding decrease makes it important to ensure that those programs that are most effective in alleviating poverty continue to receive funding. In an attempt to direct the funds to the most efficient program, the Obama Administration has placed an emphasis on diverting funding from traditional public housing units in favor Section 8 Housing Choice Vouchers (MacGillis 2010). Yet, there is no clear analysis of the varying levels of effectiveness of the two programs. It is essential that such a study be conducted in order to ensure government resources are being spent efficiently.

#### Conceptual Framework

The underlying concept is that where one lives has secondary effects upon health and education. Thus, government programs that provide housing assistance must consider their impacts upon participants' health and education. This is idea is furthered by McNulty and Holloway's explanation of social disorganization theory, which views crime and other negative externalities as an indication of a social failure based upon the local processes of control such as neighborhood organizations and networks. Traditional public housing reinforces economic and racial segregation, thus decreasing networks and increasing isolation. Furthermore, as public housing is often placed in economically poor neighborhoods, the residents' fear of crime increases neighbors' mistrust of one another (McNulty and Holloway, 2000). Therefore, according to social disorganization theory, Section 8 Housing Choice Vouchers should decrease economic and racial segregation, thus minimizing negative externalities and improving the secondary outcomes of education and health.

This study will be specifically focused around health and education in children because the child's health is influenced by his/her current environment, whereas an adult is more likely to have preexisting conditions that are unrelated to the current participation in these programs. A child's attachment to education may be influenced by the where the child lives because residence is the deciding factor for which school a child will attend. Furthermore it is also indicative of the

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peer effects. If the child is surrounded by other children who do not regularly attend school, it may impact their attachment to education.

## Study Design

## Data

In order to conduct a study of the secondary outcomes of participants in the Section 8 Housing Choice Voucher program and traditional public housing, I used data from the 2002 National Survey of American Families (NSAF).<sup>1</sup> The NSAF was conducted in 1997, 1999, and 2002 in order to assess the effects of the federal decentralization of social programs. I used the 2002 data as it is the most recent wave of data collection. The NSAF was a national survey that sampled over 40,000 families and was conducted by Westat for the Urban Institute and Child Trends. The response rate for families with children was 55 percent in the 2002 wave of data. The survey collected data on household composition, income, health status, education, and childcare.<sup>2</sup>

The survey was sampling frame was a random sample of households with telephone numbers that was then complemented with a sample of households without telephone lines as well. This cross sectional data is intended to be representative of the national population younger than 65 years old. This data is appropriate for my research question because its national application allows me to assess the nationwide performance of these two federal programs. Furthermore, it looks at child well being as well as participation in social programs. Finally, this data is almost a decade old now, but has such a large number of respondents that I believe the results will still be salient.

<sup>&</sup>lt;sup>1</sup> I am not studying the Low Income Housing Tax Credit program as there was no data about it in this survey. <sup>2</sup> The 2002 NSAF data was available online in STATA format. The public use files separated the data into 8 different data sets. I used 4 of these data sets; the focal child data, the household data, the random adult data, and the social family data. I merged these sets in STATA and then began to clean and code the data to address nonresponse.

## Analysis Sample

My analysis sample was limited to families with children who were eligible for federal housing assistance based upon their income. Approximately 9,000 respondents were dropped as they did not have children and an additional 24,000 respondents were dropped as they were ineligible for federal housing assistance, or dud not respond to one of the three housing questions. A family's eligibility for federal housing assistance was determined by their previous response to their household incomes. This made my sample size 6614.

#### **Regression Equation**

I ran ten multivariate ordinary least squares regressions to estimate the relationship between living in various types of federally assisted housing and the secondary outcomes of health and education. The regression equations were as follows, where y represented each of the five outcomes:

 $Y = \beta_0 + \beta_1 GOVTASSIST + \beta_2 PARENTMIDDLE + \beta_3 PARENTHS + \beta_4 PARENTDIPLOMA + \beta_5 POVHALF + \beta_6 POVONE + \beta_7 POVONEHALF + \beta_8 POVTWO + u$ 

 $Y = \beta_{0+}\beta_{1}PUBHOUSE + \beta_{2}VOUCHER + \beta_{3}GOVTRENT + \beta_{4}MULT \beta_{5}PARENTMIDDLE + \beta_{6}PARENTHS + \beta_{7}PARENTDIPLOMA + \beta_{8}POVHALF + \beta_{9}POVONE + \beta_{10}POVONE HALF + \beta_{11}POVTWO + u$ 

Y separately represented confidence in health care, dental visits last year, child's physical health, child's mental health, and child's engagement in school. GOVTASSIST represented whether or not a respondent received any form of government housing assistance while PUBHOUSE, VOUCHER, GOVTRENT, and MULT were a series of dummy variables to code for the specific programs of traditional public housing, Section 8 Housing Choice Vouchers, general government rental assistance,<sup>3</sup> and those participating in more than one program, respectively. The omitted group was NOAID, which were those who did not receive housing assistance.

The following variables were two sets of dummy variables set up to control for parent's education and family income to poverty ratio. PARENTMIDDLE, PARENTHS, and PARENTDIPLOMA, were used to show the parent had only completed middle school, had only completed some high school, or had a high school diploma or a GED respectively. The omitted group was PARENTHIGHERED, which indicated the parent had some level of postsecondary education. Finally, the dummy variables created to control for the family income to poverty ratio were POVHALF, POVONE, POVONEHALF, and POVTWO which stood for the family income being half of the poverty line or less, between half of the poverty line and the poverty line, or between one and a half times the poverty line, or between one and a half times the poverty line and twice the poverty line. The omitted group was those with an income that was more than twice the poverty line.

#### Independent Variables

My independent variable was the type of federal housing assistance a family received. I ran two sets of regressions, the first was whether or not the respondent had received any housing assistance and the second was with categorical variables for each type of housing assistance. My first independent variable was GOVTASSIST, which was coded as a one if the respondent received any federal housing assistance and a zero if he/she was eligible but did not receive any housing assistance.

In the second set of regressions my independent variable was a set of dummy variables that allowed for the categorization of the type of housing assistance received. The first was

<sup>&</sup>lt;sup>3</sup> I believe this variable was included in the survey to capture those who may have misunderstood the first two questions about traditional public housing and Section 8 Housing Choice Vouchers but do in fact receive federal housing assistance. This may also capture state and local assistance programs.

traditional public housing. The variable name was PUBHOUSE, which was created from responses to the NSAF question, "Is the building owned by a public housing authority?" Yes to this question was coded as a one and no as a zero. If a respondent answered yes to this question and yes to other housing assistance, it was also coded as a zero. It should be noted that this question was almost identical to the American Housing Survey, a survey conducted by the Department of Housing and Urban Development and the Census Bureau, questions to determine type federal housing assistance.

The second variable representing housing assistance received Section 8 Housing Choice Vouchers. It was indicated by the dummy variable VOUCHER, which was coded as a one if the respondents received vouchers and a zero if they did not or received a voucher in conjunction with other housing assistance. The NSAF determined those receiving Section 8 vouchers at the time of the survey by asking, "Did a public housing authority or some similar agency give (you/your family) a certificate or voucher to help pay the rent for this apartment or home?"

The third variable representing housing assistance was government paid rent. There was some overlap between this and the first two questions but there were also some respondents who only answered affirmatively to this question. Because the data were coded based on respondents' answers and not a list of participants in the programs, the question was included to capture those who may have misunderstood the other questions but do receive federal housing assistance. The dummy variable for this response was GOVTRENT and was coded as a one if the respondent answered yes to this question and no to the other two housing assistance questions; a zero was used for all other responses.

The fourth category was if a respondent answered yes to more than one of the previous questions. The dummy variable MULT was used if this was the case. And finally the variable

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NOAID was used if a respondent was eligible for these programs but did not receive any housing assistance. These five dummy variables were mutually exclusive. Table 1 includes counts for each of the independent variables.

Independent Variable	Frequency	Percentage
GOVTASSIST: Yes	1,763	26.65%
GOVTASSIST: No	4,851	73.35%
PUBHOUSE	418	6.32%
VOUCHER	63	.95%
GOVTRENT	215	3.25%
MULT	1,067	16.13%
NOAID	4,851	73.35%

#### Table 1: Independent Variables

## Dependent Variables

My dependent variables were access to health care, overall health status and education. I measured access to health care by analyzing how respondents answered the following questions: "The next two questions are about the medical care you and your family receive from doctors and hospitals. How confident are you that your family members can get care if they need it?" and "During the past 12 months how many times did you see a dentist or dental hygienist?" This demonstrated how the federal housing assistance program in which the respondent participated, which may inadvertently restrict where families are able to live, influenced the access to health care.

The variable CONFHC was used for a respondent's confidence in ability to receive health care. If respondents answered that they were extremely confident, very confident, or somewhat confident they were coded as a one. If they were not too confident or not confident at all they were coded as a zero. The second variable used for access to health care was FDENT, which was a numerical variable for the number of times a respondent had been to the dentist in the last year.

My second set of dependent variables was the child's overall health status. This was assessed by two statistics: physical health and mental health. I created an indicator variable for physical health of the child based upon the respondent's answers to the following question: "Now I'd like to talk about CHILD'S health status. In general would you say CHILD'S health is... excellent, very good, good, fair, poor?" The variable PHYSHEALTH was created where excellent, very good, and good were coded as a one and fair and poor were coded as a zero.

Then I created an index for the child's mental health using the respondent's answers of "often true," "sometimes true," or "never true" to the following statements: "During the past month CHILD doesn't get along with kids." "During the past month CHILD can't concentrate or pay attention for too long." "During the past month CHILD has been unhappy, sad, or depressed." "During the past month CHILD has trouble sleeping." and "During the past month CHILD does poorly at schoolwork." The variable MENTALHEALTH was created by summing the answers to these questions, a higher score indicates better mental health.

My third dependent variable was the child's attachment to education. I used the variable provided by the NSAF that was created by aggregating<sup>4</sup> the responses to the following questions: "How often does the child care about doing well in school?" "Would you say child only works on schoolwork when forced to?" "Would you say child does just enough schoolwork to get by?" and "Would you say child always does homework?" The variable UENG was used, where a higher score on a scale of 4 to 16 was indicative to a higher level of engagement in school.

<sup>&</sup>lt;sup>4</sup>According to the NSAF Codebook, "response categories included all of the time (1), most of the time (2), some of the time (3), and none of the time (4). Responses to questions about how often the child only works on schoolwork when forced to and does just enough schoolwork to get by were reverse coded. Responses were then totaled, creating a scale score ranging from 4 to 16. A higher score indicates greater school engagement. Scores for respondents who answered three out of the four questions were standardized to the 16-point scale. Scores for respondents answering less than three questions were coded as missing.

# Controls

Finally, I controlled for the parent's educational attainment and family income to poverty ratio<sup>5</sup> in order to avoid omitted variable bias. Both parent's education and income greatly impact the dependent variables and as such should be added to the independent variables. To do so I created a set of dummy variables for the respondents' answers to the question "What is the highest grade or level of regular school you have ever completed?" PARENTMIDDLE was for if the parent had only completed middle school, PARENTHS was used if the parent had only completed some high school, PARENTDIPLOMA was used if the parent had a high school diploma or a GED, and PARENTHIGHERED indicated the parent had some level of postsecondary education.

The control for income<sup>6</sup> to poverty ratio was based on a constructed variable produced by the NSAF that determined family income relative to the poverty threshold given family size and number of children. Income was defined as a system of dummy variables for a family's income based on the poverty line. POVHALF indicated that a family's income was below half of the poverty line, POVONE denoted that a family's income was between half of the poverty line and the poverty line, POVONEHALF signified that a family's income was between the poverty line and one and a half times the poverty line, POVTWO implied that a family's income was between

<sup>&</sup>lt;sup>5</sup> I initially controlled for whether or not the family received Temporary Assistance for Needy Families (TANF) or food stamps as well. However, the inclusion of these variables led to a lower significance for the coefficients of the independent variables and after further investigation, it was because these variables were collinear with the poverty variable. Thus I omitted them from my regressions.

<sup>&</sup>lt;sup>6</sup>According to the NSAF Codebook, "to determine family income, questions are asked about the amount of money income received in the preceding calendar year by each person in the sampled family, 15 years old and over. Sources of income include: (a) Money wages or salary; (b) Net income from self-employment; (c) Social Security; (d) Supplemental Security Income; (e) Public assistance or welfare payments; (f) Interest (on savings or bonds); (g) Dividends, income from estates or trusts, or net rental income; (h) Veterans' payment or unemployment and workmen's compensation; (i) Private pensions or government employee pensions; and (j) Alimony or child support, regular contributions from persons not living in the household, and other periodic income.

one and a half times the poverty line and twice the poverty line, and POVFOUR suggested that a family's income was between twice the poverty line and four times the poverty line.

# <u>Results</u>

The following are an explanation of results for the ten multivariate ordinary least squares regressions I performed. I calculated one set with the independent variable as whether or not a respondent received any type of housing assistance (GOVTASSIST) and the other by specific types of housing assistance (PUBHOUSE, VOUCHER, GOVTRENT, MULT, NOAID). Table 1 shows the results of the first set of regressions and Table 2 shows the results of the second.

# Table 2: Government Assistance's Impact upon Access to Health Care, Child's Health and Child's Engagement in Education

	Confidonco	Dontal Vigita	Child's	Child's	Child'a
	Connuence	Dental visits	Cinia s	Cinia s	Cinia s
	in Health	Last Year	Physical	Mental	Engagement
	Care		Health	Health	in School
GOVTASSIST	0.023	0.288	-0.017	-0.262	-0.447
	(0.015)*	(0.001)**	(0.038)*	(0.026)*	(0.001)**
PARENTMIDDLE	-0.050	-0.469	-0.136	0.197	-0.697
	(0.001)**	(0.001)**	(0.001)**	(0.276)	(0.001)**
PARENTHS	0.022	-0.254	-0.018	-0.140	-0.667
	(0.076)	(0.001)**	(0.096)	(0.379)	(0.001)**
PARENTDIPLOMA	0.017	-0.191	-0.007	0.132	-0.203
	(0.077)	(0.001)**	(0.416)	(0.268)	(0.053)
POVHALF	0.019	-0.236	-0.022	-0.270	-0.186
	(0.264)	(0.002)**	(0.140)	(0.198)	(0.329)
POVONE	-0.007	-0.2017	-0.022	-0.477	-0.282
	(0.631)	(0.004)**	(0.096)	(0.010)**	(0.097)
POVONEHALF	.004	-0.098	-0.003	-0.255	-0.313

	(0.802)	(0.160)	(0.794)	(0.155)	(0.061)
POVTWO	0.031	-0.069	.003	-0.346	-0.040
	(0.045)*	(0.328)	( 0.850)	(0.062)	(0.816)
Constant	.853	1.306	.938	12.960	12.728
	(0.001)**	(0.001)**	(0.001)**	(0.001)**	(0.001)**
Observations	6614	6614	6614	1682	3745
R-squared	0.01	0.02	0.02	0.01	0.02
Probability values in parenthesis					
* significant at 5%;					
** significant at 1%					

The regressions indicate that receiving some type of federal housing assistance has a positive impact on access to health care. Receiving housing assistance is associated with a marginal increase of .02 in the respondent's confidence in their ability to receive health care and was statistically significant at the five percent level. Receiving housing assistance was also correlated with an increase of .28 dentist visits in the previous year. This result was statistically significant at the one percent level. Although receiving housing assistance is statistically significant in relation to access to health care, the results are not practically significant. An increase of two hundredths of a point and three tenths of a dental visit are not large enough to be significant when deciding policy.

The regressions also indicate, contrary to my expectations, that receiving some type of federal housing assistance has a negative correlation with a child's physical health, mental health, and engagement in school. The results for physical and mental health were both statistically significant at the five percent level. The results for engagement in school were statistically significant at the one percent level. Although, as in the previously stated results, in all three of these cases the statistical significance is not practically significant. Fractions of a point on scales of 5, 15, and 16 respectively are not large enough to be significant to decision

makers. For practical purposes there is not a difference between the results of those receiving federal housing assistance and those who are eligible, but not currently receiving any.

	Confidence in	Dental Visits	Child's	Child's	Child's
	Health Care	Last Year	Physical	Mental	Engagement
			Health	Health	in School
PUBHOUSE	0.004	0.158	0.001	0.084	-0.312
	(0.806)	(0.044)*	(0.946)	(0.691)	(0.115)
VOUCHER	-0.19	0.125	-0.121	-0.620	-1.251
	(0.647)	(0.521)	(0.001)**	(0.180)	(0.007)**
GOVTRENT	-0.022	0.328	-0.037	-0.696	-0.486
	(0.338)	(0.002)**	(0.070)	(0.008)**	(0.052)
MULT	0.042	0.342	-0.014	-0.264	-0.438
	(0.001)**	(0.001)**	(0.151)	(0.064)	(0.001)**
PARENTMIDDLE	-0.048	-0.459	-0.138	0.165	-0.708
	(0.001)**	(0.001)**	(0.001)**	(0.363)	(0.001)**
PARENTHS	0.024	-0.247	-0.017	-0.159	-0.665
	(0.057)	(0.001)**	(0.107)	(0.316)	(0.001)**
PARENTDIPLOMA	0.018	-0.188	-0.007	0.130	-0.120
	(0.063)	(0.001)**	(0.428)	(0.275)	(0.057)
POVHALF	0.018	-0.241	-0.021	-0.264	-0.188
	(0.283)	(0.002)**	(0.149)	(0.207)	(0.324)
POVONE	-0.008	-0.209	-0.022	-0.462	-0.285
	(0.584)	(0.003)**	(0.102)	(0.013)*	(0.094)
POVONEHALF	0.003	-0.102	-0.003	-0.250	-0.314
	(0.836)	(0.142)	(0.812)	(0.163)	(0.061)
POVTWO	0.031	-0.070	0.003	-0.344	-0.040
	(0.045)*	(0.320)	(0.820)	(0.063)	(0.814)
Constant	0.853	1.306	.938	12.962	12.729
	(0.001)**	(0.001)**	(0.001)**	(0.001)**	(0.001)**
Observations	6614	6614	6614	1682	3745
R-squared	0.01	0.02	0.03	0.02	0.02
Probability values in parenthesis					
* -::6:: -: -: -: -: -: -: -: -: -: -: -:					
* significant at 5%;					
** significant at 1%					

 Table 2: Specific Assistance Programs' Impact upon Access to Health Care, Child's Health and Child's Engagement in Education

The second set of regressions was intended to demonstrate the differences in secondary effects between traditional public housing and Section 8 Housing Choice Vouchers. In regard to confidence in health care and child's mental health, there is no statistically significant difference

between the two. However, contrary to my expectations, those who lived in traditional public housing fared better than those who received vouchers in terms of dental visits, child's physical health, and child's engagement in school. Though, like the last set of regressions, the statistical differences in these areas do not translate to practical differences.

The confidence in health care variable did not to have any statistically significant results for any of the variables, except those that indicated they were receiving more than one government program. This could be due to the fact that those who are receiving more than one program are better aware of federal assistance programs in general and as such are able to have better access to care. The coefficient for multiple programs was significant at the one percent level, but practically insignificant as it was less than five hundredths of a point. For this variable, for all intents and purposes, the impact of traditional public housing verses Section 8 Housing Choice Vouchers was indistinguishable from each other as well as from the low income population not receiving housing assistance.

The second access to health care variable, number of dental visits within the last year, was positively correlated with those living in traditional public housing, those who said the government pays their rent, as well as those who received multiple forms of assistance. It indicated that those living in traditional public housing had .15 more dental visits than those not receiving housing assistance. It was statistically significant at the five percent level for public housing and at the one percent level for government paying rent and multiple programs. However, once again the results were practically insignificant as, at most, the variables increased the number of dental visits by only a third of a visit. The results were statically insignificant for those receiving vouchers. This means that statistically speaking, those in traditional public housing visited a dentist more times than those receiving vouchers.

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A child's physical health was equally disappointing for those receiving vouchers. The only housing variable that was statistically significant was the voucher variable, which was negatively correlated with a child's physical health. However there is no practical significance to this variable as it was only a decrease of one tenth of a point on a five-point scale. The other housing variables were not statistically different from the group receiving no housing assistance.

The second health variable, child's mental health, was equally inconclusive. The only group that was statistically different from the group not receiving assistance was the government pays rent group. The government pays rent variable was negatively correlated with a child's mental health and statistically significant at the one percent level. But again, it was practically insignificant as it only varied by a fraction of a point on a 15-point scale.

Finally, child's engagement in school was negatively correlated with both those receiving vouchers and those receiving multiple types of assistance and these results were both significant at the one percent level. Traditional public housing and government pays rent were both statistically similar to the group receiving no government assistance. The only result that is possibly practically significant is the voucher variable which demonstrates a ten percent decrease in a child's engagement in school when compared to the group receiving no federal assistance.

There are some limitations to this study. The first and foremost is that the data is almost 9 years old. More recent data would improve the implications of the findings of this study. Furthermore I was unable to control for the child's age or grade level as the response rate to those questions was so low. This control would further solidify the results of this study because it would eliminate the possibly confounding variable of age when dealing with a child's engagement in school.

#### Conclusion

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This research analyzed the effects of two different housing programs on the health and education of children of recipients. It compared two programs in a way that has yet to be done in the field. Most of the previous research has compared those receiving federal assistance and other low-income families. This determined that the secondary effects of one program were not markedly different than the other, thus providing a better understanding of how funding for these programs should be distributed.

Though the study showed there are statistical differences between the two programs and that traditional public housing fared better for most of the secondary effects, it also demonstrated that there is no real practical difference between the outcomes of the programs. This means that the decision of which government assistance program to fund should be based upon other factors such as cost per resident. Both programs are successful in meeting their primary outcome of providing housing to the recipients. However, with no practical difference between either program in terms of secondary outcome, whichever program is less expensive per person should be the one upon which the government should concentrate its funding.

This lack of differences between the secondary outcomes could be indicative of a failure in the design of the Voucher program. The voucher program was set up to provide recipients with a choice in their neighborhood. However, perhaps they are still living in equally poor neighborhoods and as such not escaping the negative externalities of pockets of poverty. This study would be further enhanced if the income of the census tract were included as a variable. This could explain the absence of distinguishable secondary outcomes.

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