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ECON 2505

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The Correlation between children under 6 years old and poverty which leads to lead exposure in old house

We all have seen paint and where they are used, mainly in homes, campus buildings, and on some art paintings. Over time the paint will start to dry out, which allows us to put certain objects on the wall to hang them as displays, but when time passes by, more of that paint begins to crack and small amounts of dust springs into the air. Anyone that comes in contact with it may experience coughing and other negative symptoms, however that will only be a minor problem if you are only an adult. Children, on the other hand, will have a major problem if the paint is inhaled. The dust that has spread into the air which will make their thinking process and breathing difficult. There are correlations between children under 6 years old and how old are housing, when it comes to lead exposure.

As was mentioned before there are multiple things that lead to lead exposure effects, one of them is health, mainly children under the age of six years old. They are more vulnerable since their brains are still developing their thinking process. This type of side effect can reduce their comprehension in class which will in turn make them have poor grades and bad communication with their teachers. The CDC (Center for Disease Control and Prevention) states that “Exposure to lead can seriously harm a child’s health and cause well-documented [health effects](#), including damage to the brain and nervous system, slowed growth and development, learning and behavior

problems, and hearing and speech problems”(see citation CDC, 9 Sept. 2022). Overall the parent’s child will have a difficult life upbringing when it comes to their brain function. Also the parents will have a hard time as well, communicating with their child since the lead exposure is messing with them internally, which will affect their mind and physical health.

There are other factors that lead exposure can affect, and that is their blood. Drinking water or inhaling lead dust from the paint can contaminate their blood. However, the lead can be identified in the child’s blood when sending them to the hospital to get tested. According to the CDC “There are often no apparent symptoms when a child is exposed to lead. Because of this, a blood test is the best way to determine if a child has been exposed to lead ”(see citation CDC, 2 Dec. 2022). Detecting the lead inside the blood as soon as possible can allow the parent to get the care that they need for their child right away. Since the lead chips can be detected in homes, knowing how old the building is can be beneficial as well. The paint used back in the 1900’s contained lead and overtime the paint started to crack and peel off making the environment unstable for children under 6 years old.

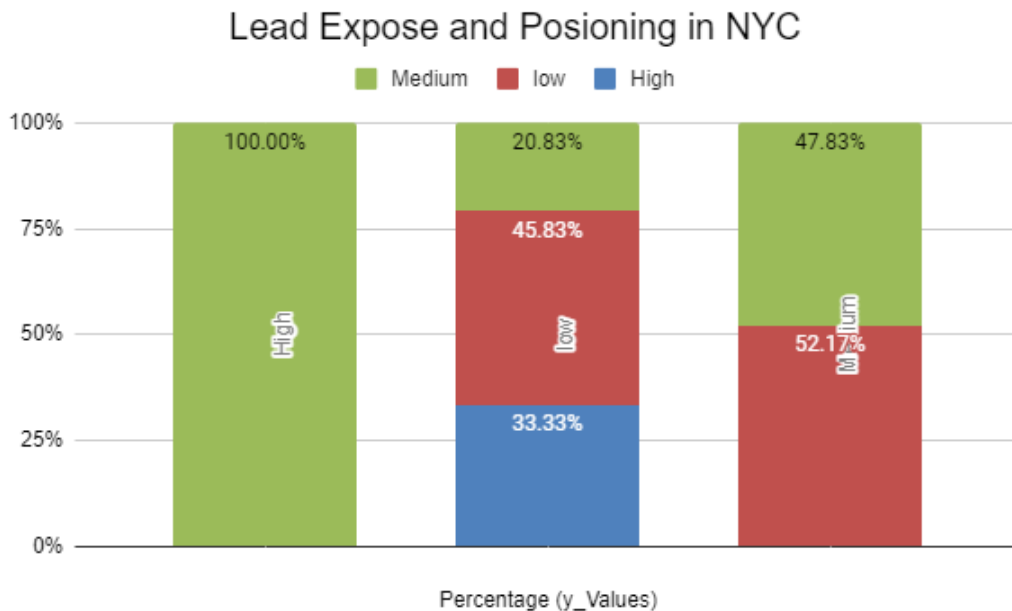
Lead paint are most present in old homes, houses that were constructed before 1978. As you already know that children under 6 years old can come in contact with the lead paint very easily, as stated on the US EPA website, about protecting your family from sources of lead,”If your home was built before 1978, it is more likely to have lead-based paint. In 1978, the federal government banned consumer uses of lead-based paint, but some states banned it even earlier”(see citation, US EPA). The fact that the paint started to peel and damage health, researchers started to look at this problem and saw that there was a relation between old housing and the poverty of some residents living in them. Those that didn’t have that much money for those more expensive homes that are new or have no hazards, tend to live in apartment

buildings that are affordable for them. The National Library of Medicine, states that “Research has demonstrated substantial disparities in risk of lead poisoning across neighborhoods. Specifically, research has shown that children living in poverty and in communities with old housing stock are at greater risk for lead poisoning.^{5,6,15,16} Less is known about whether these associations are mitigating over time”(Hauptman, Marissa, Aug 2023). The housing that is most affordable would most likely have paint that is deteriorating and bring in a harmful lead atmosphere, which is bad for children under the age of six

Children under the age of six that are exposed to lead in old homes appear in the scatter liner chart below a few pages.

Percentage of Houses containing Lead and having Lead exposure

Percentage (y_Va	High	low	Medium	Grand Total
High		33.33%		16.67%
low		45.83%	52.17%	47.92%
Medium	100.00%	20.83%	47.83%	35.42%
Grand Total	100.00%	100.00%	100.00%	100.00%

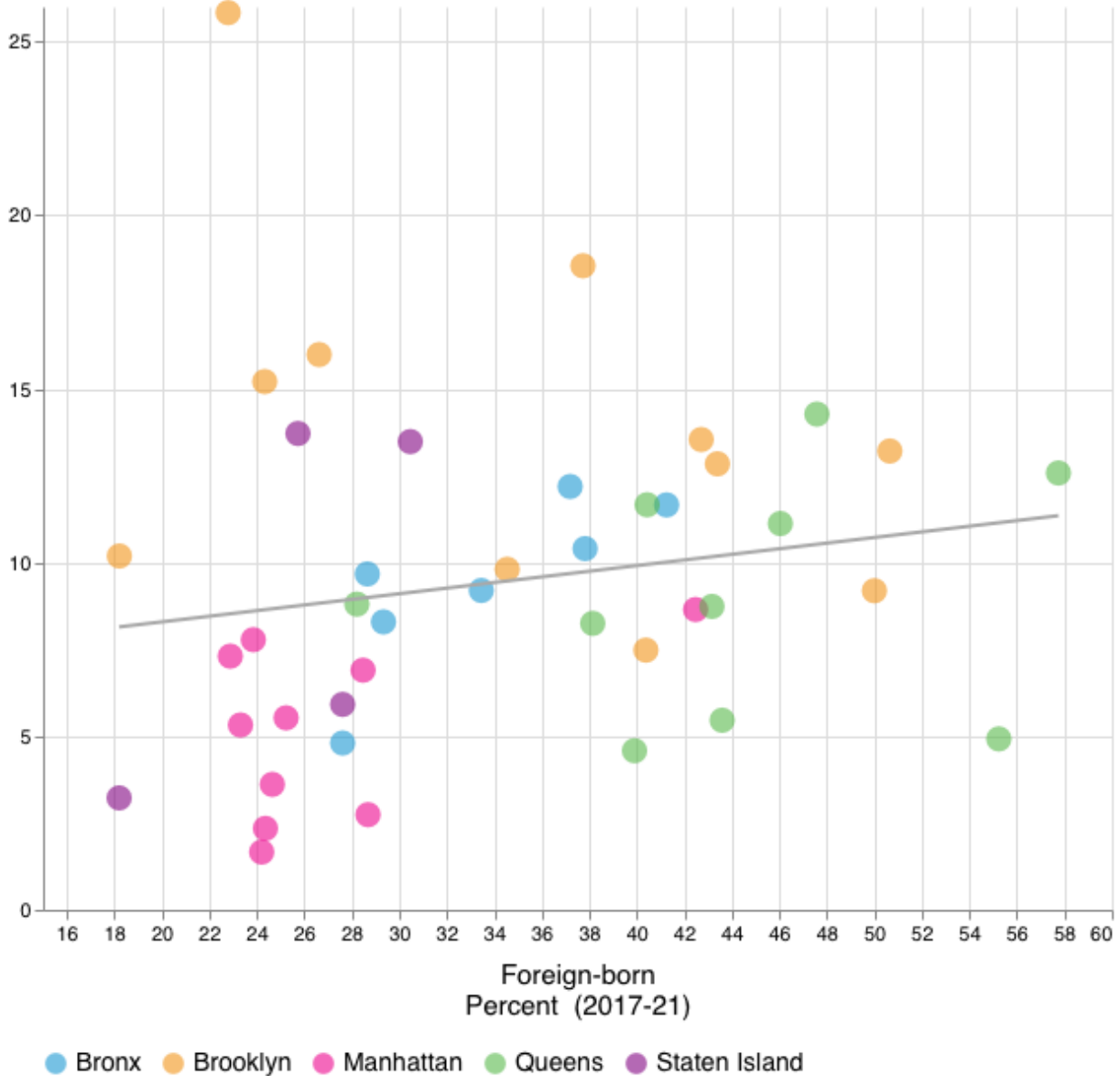


According to the graph above, we see a lot of percentages with respect to a bar graph. The left side of the Pivot table should represent the higher and lower values of old homes, that can be exposed to lead. As for the middle, you see under the low column 33% and on the right hand side High of the table corresponding with it, meaning that only old homes that are low in lead exposure are very high, the bar graph also shows that type of data in blue. As for homes that are in the High column, there are 100% of old homes that are also exposed to lead fall in the Medium level. (Environment & Health Data Portal,).

Last of all, when looking at the data and the information provided by the articles, I can conclude that old buildings (that were made in the 1900's) in NYC will most likely have lead paint in them. Also the only way that can get figured out is by testing the paint or checking to see if your child had any contact with the lead. When it comes to the bar chart and pivot table we see that lows, medium, and highs all have percentages showing the amount of homes that children under six years can be exposed to.

Elevated blood levels (under age 6)

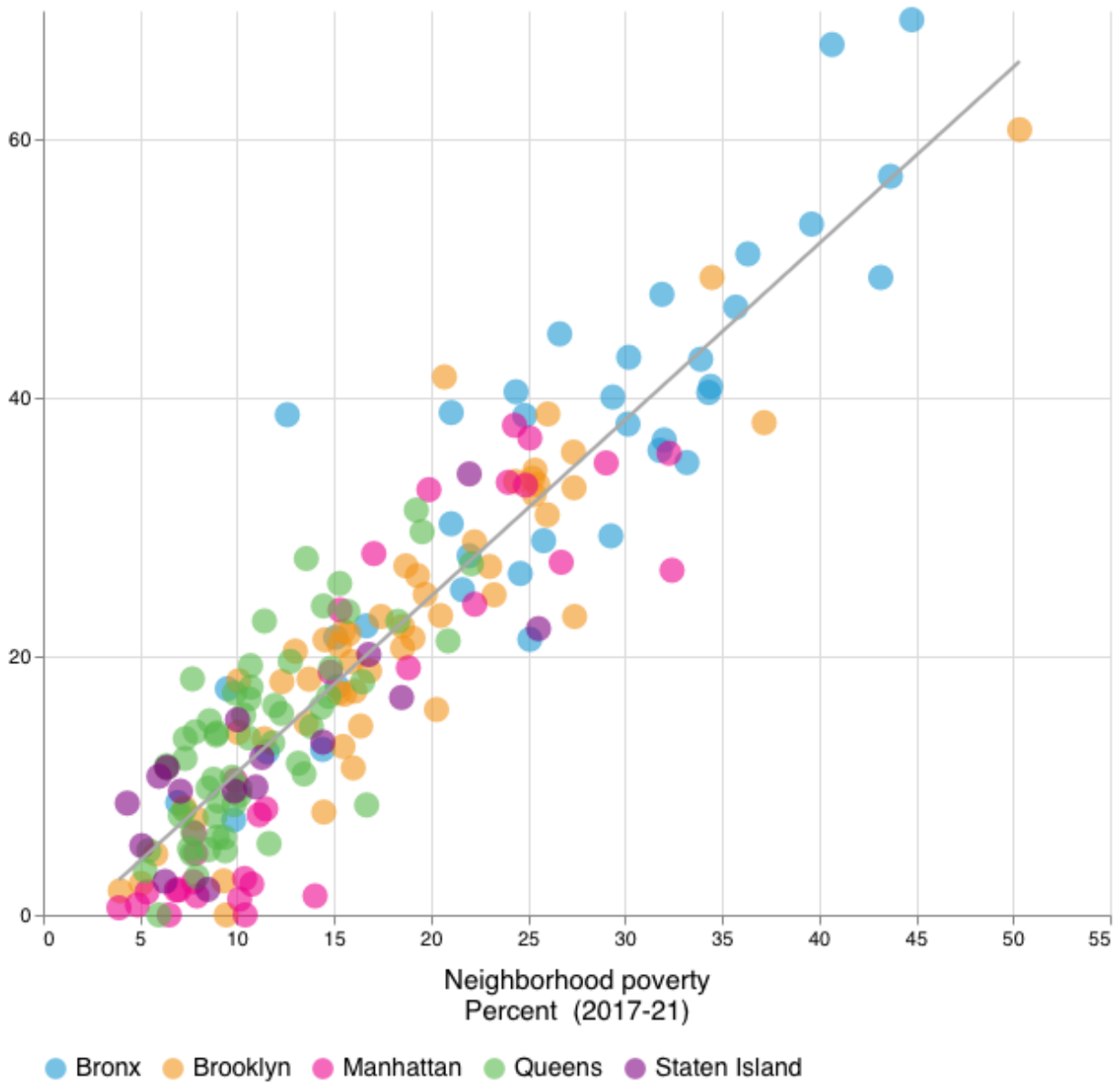
Rate (5+ mcg/dL) per 1,000 tested (2021)



This graph shows the amount of lead that's been found in children under six in different boroughs in New York. Brooklyn was found to be the highest one of lead exposure to children under six years old. These houses that they are in, are old homes that had been painted by paint that contains lead. Also it seems that when the years are progressing, the percentage of lead exposure

seems to decrease (Vertical Axis). Maybe one of the reasons is that the more people find out about lead exposure, the more careful they will start being.

Child poverty (under age 5)
Percent (2017-21)



The graph represents the amount of children under six that are in a Neighborhood that is in poverty, that are exposed to lead. Between the years 2005-2027, there are Neighborhoods that are low in poverty will tend to have more lead exposure in lod homes, which children under the age of six are exposed too.

The old homes, children under the age of six years old, and poverty usullay comprise of lead paint contamination of some sorts. As you now know the old homes that were constructed before 1978 would most likely contain lead paint. When it comes to households living under poverty, the homes themselves tend to have lead paint exposure. One type of exposure can be the dust from the paint that has been cracked due to the amount of years it lasted. The dust from the air can affect children under six years of age, making their brain activity and breathing not function properly. Therefore, with the research that has been conducted with the graphs and table, that lead paint should be dealt with early and homes should be checked more frequently.

Work Cited page

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***Protect Your Family from Sources of Lead* | US EPA, <www.epa.gov/lead/protect-your-family-sources-lead>
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