



# **Gentrification Trends in NYC (2000-2020)**

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# Gentrification Overview

Discusses gentrification as a topic, the target group of the projects and the overall value add from our data analysis.



## What are you doing?

This study examines the impact of **gentrification in NYC** on education and income and ties this to recent demographics changes (white versus non-white). We analyze data spanning two decades to reveal how gentrification influences educational opportunities and income levels.




## Why is your target group?

Our focus is on **New York City** residents in gentrifying neighborhoods, especially across different racial groups. We also want to focus the results on other cities that are experiencing similar problems, as understanding this issue is key to comprehending the broader implications of gentrification.



## What may they gain from your work?

The study provides insights for those shaping **urban policy, education and allocation of funding** within New York communities. By demonstrating gentrification's diverse impacts, we help inform strategies for equitable urban development, education reform and opportunities to resources.



Gentrification is an incredibly complex issue with countless moving parts; we chose to focus our efforts on education, median income and demographics as direct drivers for this.

# Data Overview

Highlights the data background, data quality and reliability along with ethical issues associated with the data.



## Where did we get data?

**Understanding the origins of data is crucial for establishing credibility.**

The data originates from the Harvard Dataverse (accessed via database) along with the BuzzFeed News Gentrification Index, which was accessed via GitHub. Both sources include key datasets and essential data dictionaries critical for accurately tracking important variables.



## Data quality & reliability?

**Both quality and reliability are critical to ensure proper insights.**

The datasets from BuzzFeed and Harvard are credible, sourced from well-documented, reputable sources like the US Census Bureau, censusreporter.org, and Logan et al.'s database. Both datasets clearly document their methodologies and processes.



## Ethical concerns with data?

**Addressing ethical concerns is essential to address the impacts of gentrification**

Ethical issues involve correctly representing racial groups and the effects of gentrification. The data's broad racial categories may not fully reflect the nuanced impacts on diverse communities. Data on income and education is also sensitive and may be challenging to gather.

# Data Insights – Tables

Tables highlight the change in white versus non-white populations along with educational attainment percent change across different income categories.

## White versus Non-White Table

```
## # A tibble: 2 x 6
```

##	Year	total_pop	white_pop	non_white_pop	white_percentage	non_white_percentage
##	<chr>	<dbl>	<dbl>	<dbl>	<dbl>	<dbl>
## 1	00	6067978	2041886.	4026092.	33.7	66.3
## 2	20	8683764	3433983	5249781	39.5	60.5

White populations increased and displaced non-white populations by **5.8%** between the years **2000** and **2020**. This highlights a potential affect of gentrification, as minority populations are driven out.

## Income Category versus Educational Attainment Table

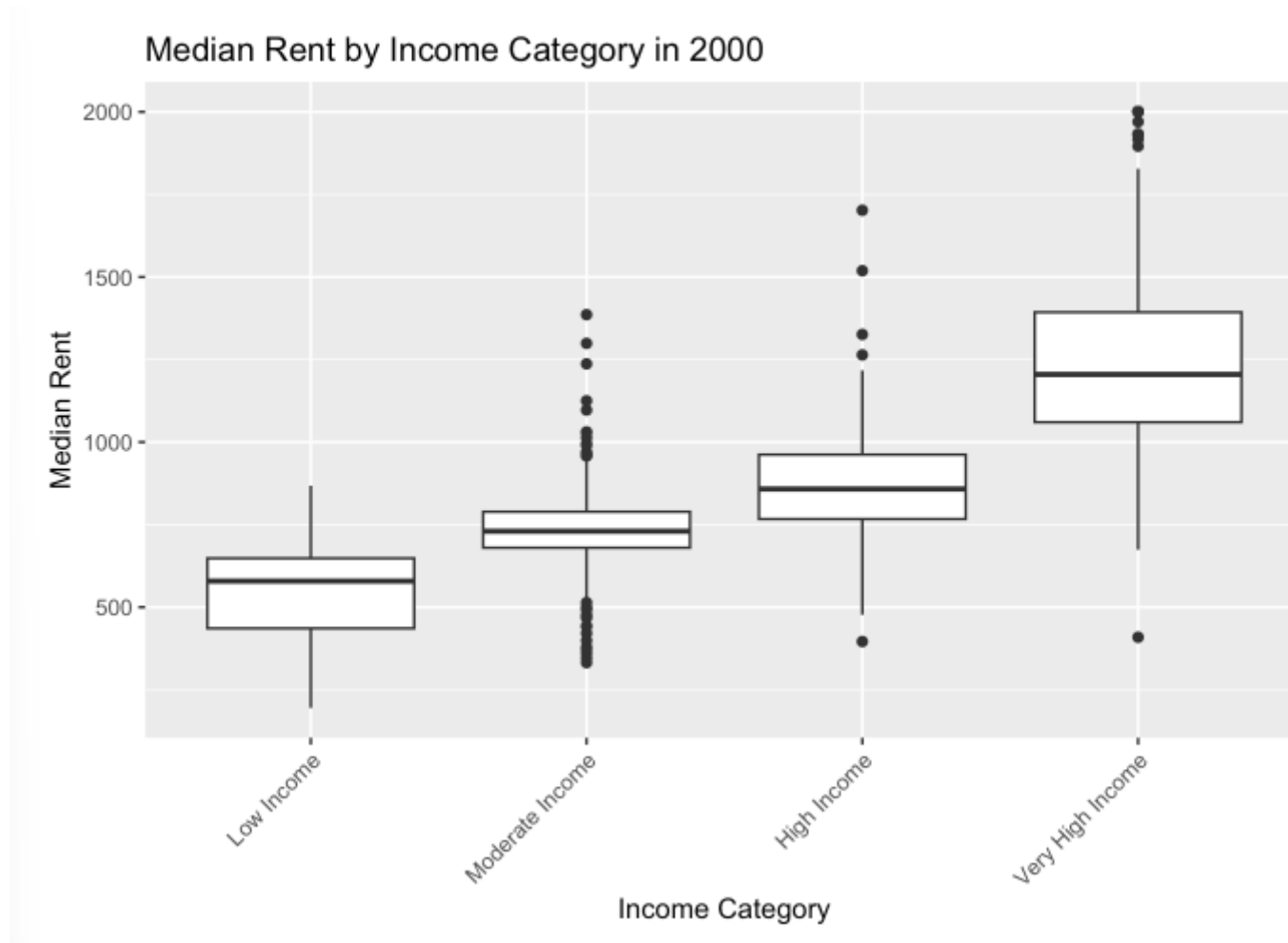
```
## # A tibble: 4 x 4
```

##	income_category00	avg_educational_atta... <sup>1</sup>	avg_educational_atta... <sup>2</sup>	percent_change
##	<fct>	<dbl>	<dbl>	<dbl>
## 1	Low Income	254.	340.	33.9
## 2	Moderate Income	537.	744.	38.5
## 3	High Income	1026.	1047.	2.02
## 4	Very High Income	2923.	2054.	-29.7

Low/moderate levels saw the highest increase in educational attainment, with the very high-level decreasing by **29.7%**. Despite this, educational attainment for 'very high' is still **504%** higher than low-income levels.

# Data Insights – Box Plot

Boxplot indicates that the higher the income, generally the higher the median rent within New York which has numerous socioeconomic effects.



1

**Median Rent:** Illustrates the median rent for households in different income brackets. Median rent increases as income rises, with the largest spread occurring within the Very High-Income bracket.

2

**Economic Burden:** Higher rent prices disproportionately affect low-income households, consuming a larger portion of their income, which is a common consequence of gentrification and can be illustrated by the plot.

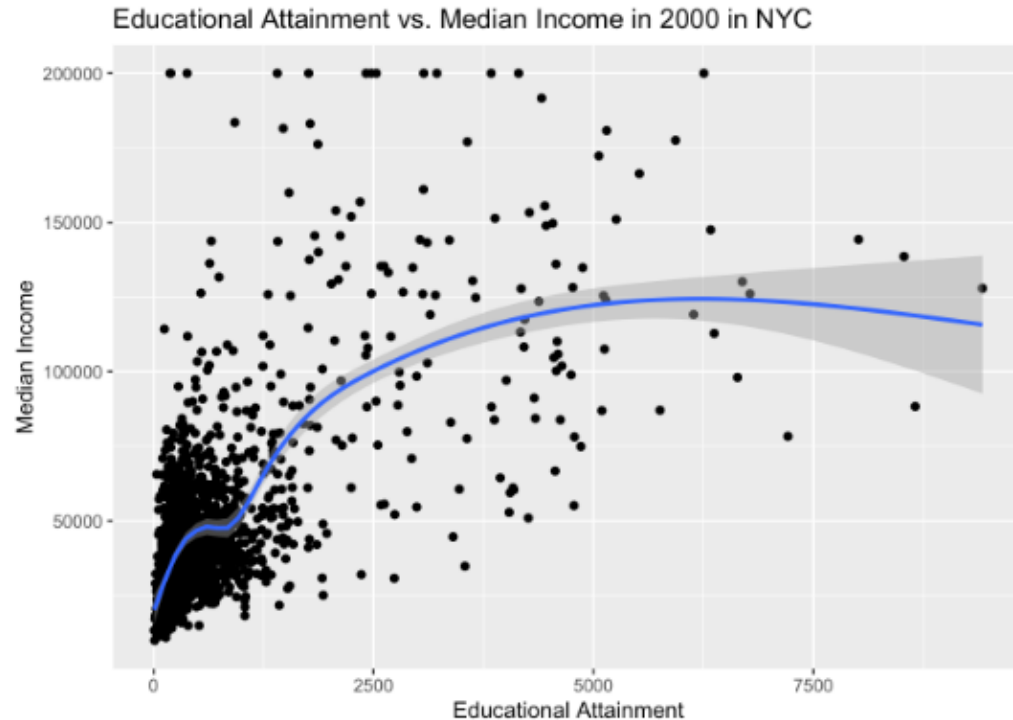
3

**Gentrification Effects:** Scaling rents illustrated within the plot suggest a trend towards displacement of the lower-income groups and poor educational infrastructure as low-income neighborhoods lack educational equity.

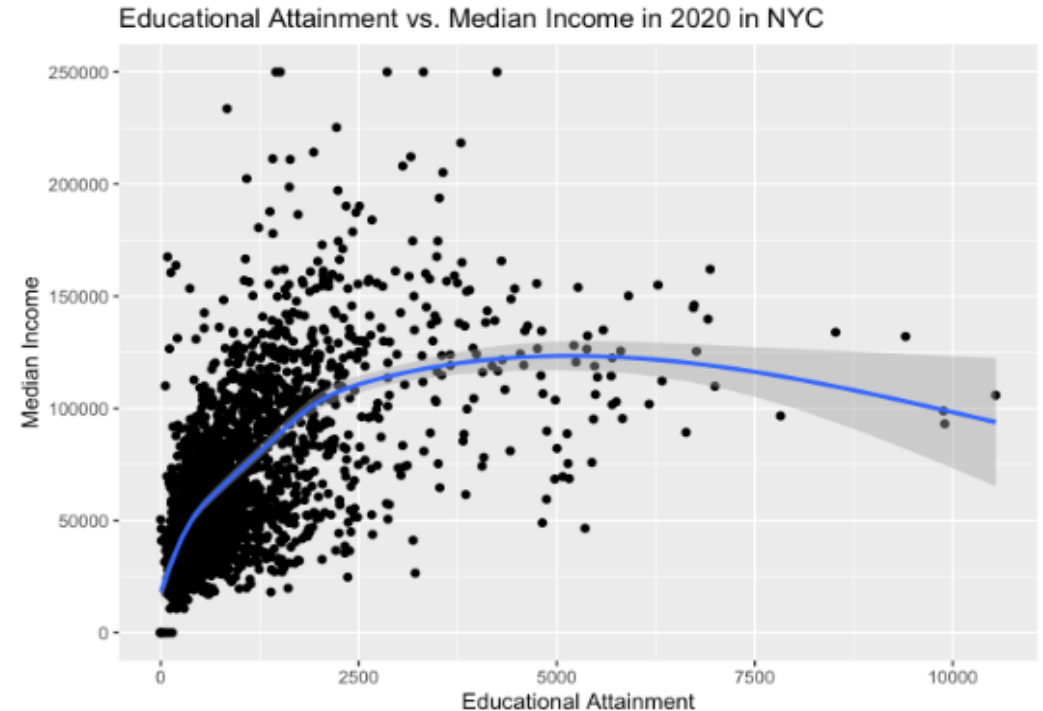


# Data Insights – Scatterplots

Both scatterplots indicate that as time has gone on educational attainment is directly linked to a higher median income.



Median income rises, overall educational attainment also increases. Although this is the case, it doesn't seem to make a difference at an income of roughly **\$50,000**. As gentrification affects many low-income areas, we can see that this significantly affects overall educational attainment.



Displays a more intensified impact of educational attainment based on various median income levels because of gentrification, where low-income areas are unable to receive equal education opportunities. In recent years this has improved with allocated efforts and city funding.

# Advanced Methods Used

Highlights the use of `geom_smooth()` in better extracting insights from our data.



## Advanced methods overview

No advanced methods were used to analyze the data, although `geom_smooth()` was used to create a line to represent a trend within the data.



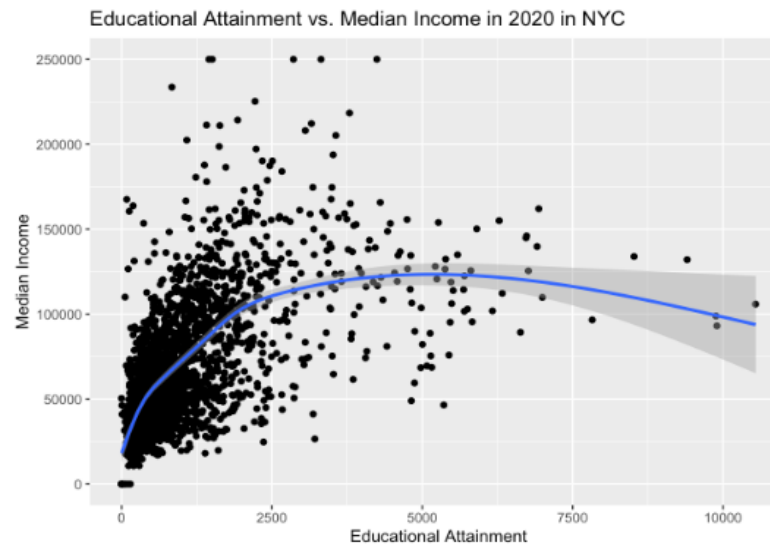
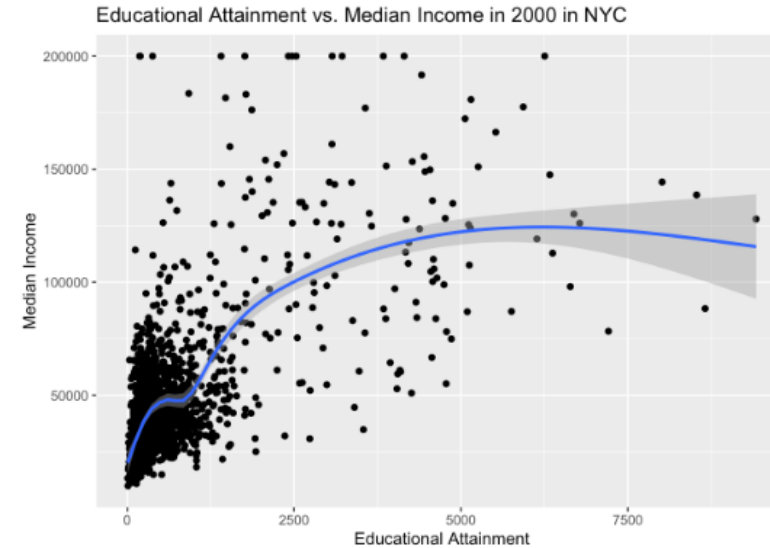
## How we used `geom_smooth()`?

This smoothed line helps to show patterns, trends and correlations that may not be directly obvious. This was used to see the general trend of the data.



## `Geom_smooth` insights?

Gives an easier visual description of how the educational attainment changes with an increase in overall median income.



Although no advanced methods were used, the **`geom_smooth()` function** was able to provide **better insights** and add a smoothed condition mean to the plot which shows how educational attainment changes with median income.

# Conclusion

Gentrification is a complex issue with countless movie pieces, although this data suggests it has gotten more intensified in the last 20 years.



## **Demographic Trends (2000-2020):**

There has been a recent decrease of 5.8% of non-white populations, while white populations have increased by this same amount from the year 2000 to 2020.



## **Rent Price Trends (2000-2020):**

Our analysis indicates that higher income earners typically pay more in rent, which logically grants individuals access to areas with better access to quality education.



## **Educational Attainment and Median Income**

The higher the median income, the higher the education attainment. Educational opportunities are skewed to groups in the 'High' & 'Very High' categories.



## **Gentrification Effects in NYC**

Gentrification has reshaped NYC, leading to diminished educational opportunities in low-income areas due to population displacement and rising median incomes.



As gentrification impacts and drives out minorities (evidenced by change in demographics), individuals need higher wages to live in NYC (rent prices) and thus getting access to better education opportunities becomes more challenging for those affected. (educational attainments versus median income).