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### Analyzing the Access to Unhealthy Food Sources in Relation to Obesity and Income Levels in Broome County

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# Access to Unhealthy Food Sources in Relation to Obesity and Income Levels in Broome County

## Ria Bhutani: People, Politics, and the Environment, The Source Project

### Background

- The low cost of fast food is a major factor that contributes to the attraction of such goods in comparison to healthier options such as produce from farmers markets or supermarkets, which often have higher prices.
- Studies conducted in other parts of the US have shown a higher number of fast-food restaurants in low-income regions than medium-to-high income areas.
- This study was conducted in order to see if there is a relationship between fast-food restaurant density and obesity trends with different high schools in Broome county, and the relationship of these variables to income level.

### Research Methods

- Analyzing census data (median income levels of towns/cities in Broome county)
- Analyzing data from the *Broome County Health Assessment* that details obesity rates within various high schools in the county
- Using google maps to map out the presence of different fast food restaurants within a 2-mile radius of different high schools in Broome county

Figure 1: Fast Food Restaurants in a 2-mile radius of Broome School Districts

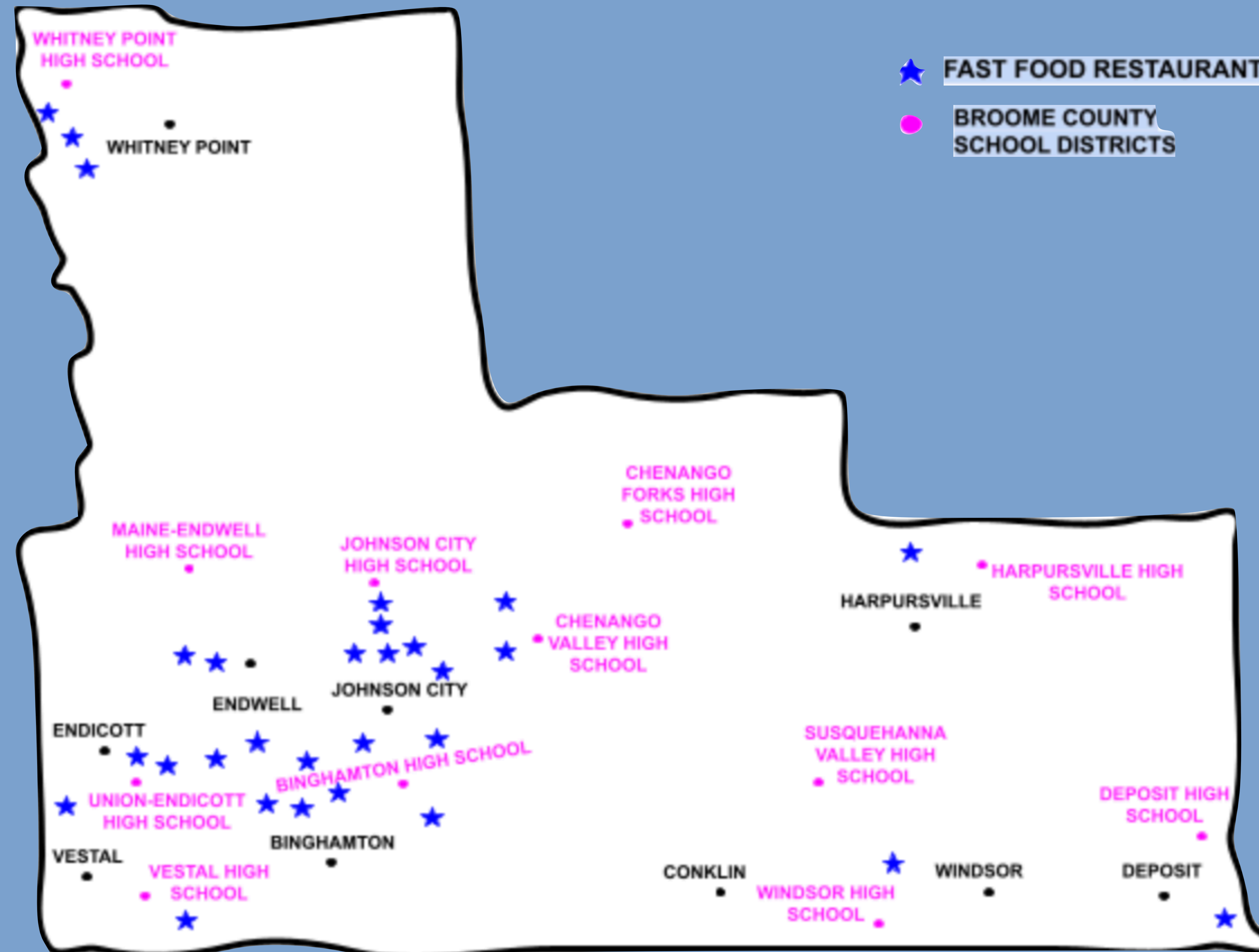
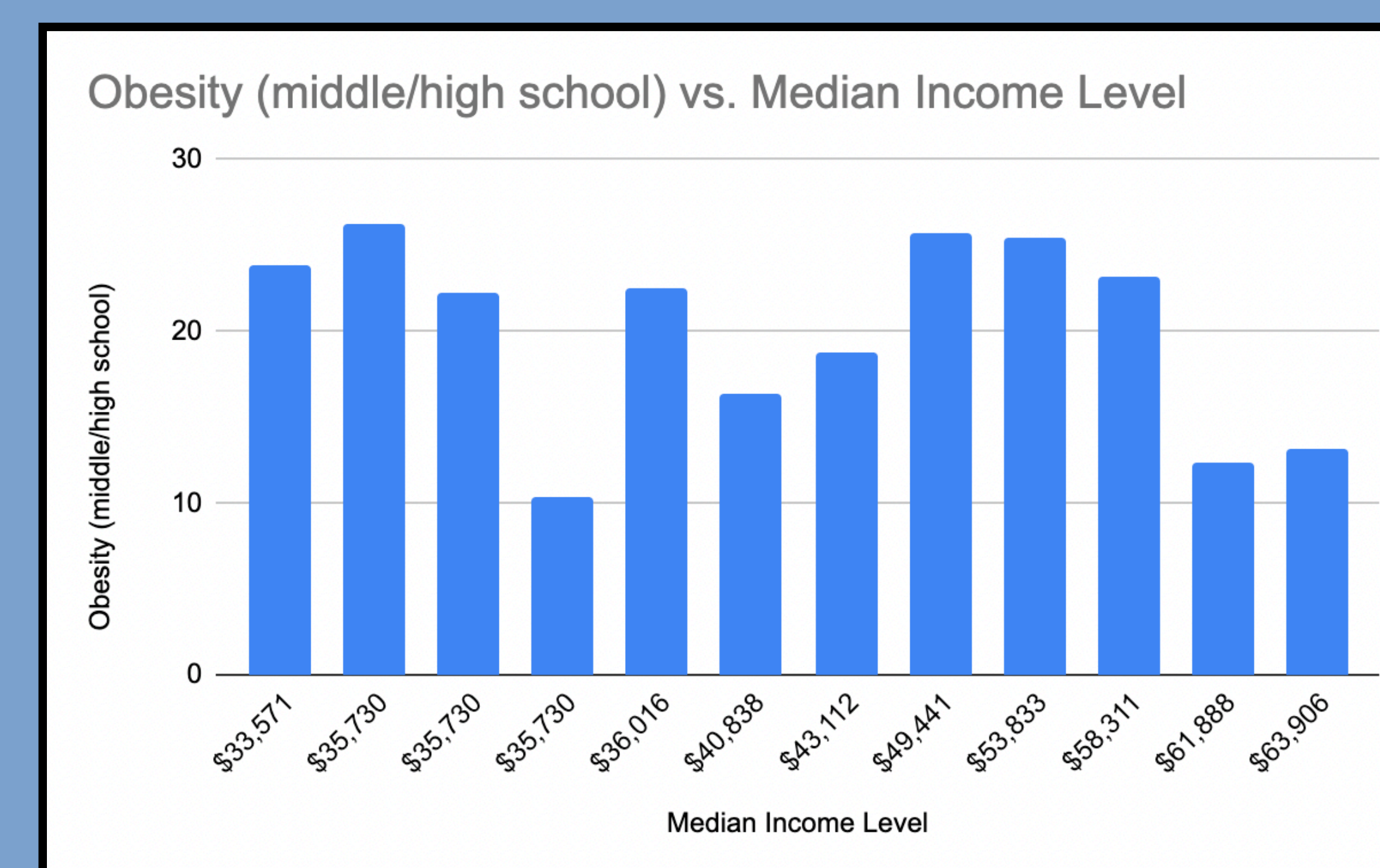


Figure 2

Town/City	Median Income Level (2019 or 2020)	School District	Obesity (middle/high school)	Number of Fast-Food Restaurants in a 2-mile radius
Deposit	\$33,571	Deposit	23.8	1
Binghamton	\$35,730	Binghamton City	26.2	9
Binghamton	\$35,730	Chenango Forks	22.3	0
Binghamton	\$35,730	Chenango Valley	10.4	2
Whitney Point	\$36,016	Whitney Point	22.5	3
Endicott	\$40,838	Union-Endicott	16.3	7
Johnson City	\$43,112	Johnson City	18.8	6
Harpursville	\$49,441	Harpursville	25.7	1
Windsor	\$53,833	Windsor	25.4	1
Conklin	\$58,311	Susquehanna Valley	23.2	0
Endwell	\$61,888	Maine Endwell	12.3	2
Vestal	\$63,906	Vestal	13.2	4

Figure 3



### Results

- Fig.1 shows that Binghamton High has the most fast food near it, with a total of 9 locations. This school also has the highest obesity rates, which is consistent with the hypothesis that as obesity rates increase, so would the density of fast-food restaurants. However, Union-Endicott High and Johnson City also have many fast-food restaurants nearby, but they have 2 of the lowest obesity rates.
- According to Fig.2, Harpursville High and Windsor High have 2 of the highest obesity rates, yet Fig.1 indicates that they have the fewest fast-food restaurants near them.
- Fig.2 shows no correlation between income level and fast food restaurant availability, indicating that these two variables are not related to one another as hypothesized.
- Fig.3 shows no clear relationship between town income level and obesity rates in schools, contradicting the hypothesis that as income level decreases obesity rates would increase.

### Discussion

- The inconclusive data collected suggests that there are factors other than fast-food restaurant availability that contributes to obesity rates in high schools within Broome county.
- The lack of correlation between income level for each school's town and the obesity rates shows that income level might not play as large of a role as studies suggest in the physical health of children.

### References

- [https://www.gobroomecounty.com/sites/default/files/dept/hd/pdfs/Broome%20County%20Community%20Health%20Assessment%202019-2024\\_All.pdf](https://www.gobroomecounty.com/sites/default/files/dept/hd/pdfs/Broome%20County%20Community%20Health%20Assessment%202019-2024_All.pdf)
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