

# The relationship between rates of obesity in adults by the percentage of adults reporting exercise

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# Introduction

Adult obesity rates are a serious public health issue that have a significant influence on people's quality of life and healthcare systems across the globe. The percentage of adult participants who report frequent exercise is one important factor that may be related to the rate of obesity. Physical exercise is essential for managing weight and maintaining general health, thus the relationship between these two variables is of great interest and concern. In order to effectively prevent and treat obesity, it is essential to understand the correlation between activity habits and obesity rates.

# Tables & Charts

Rates of Obesity by the Percentage of Adults Reporting Exercise

Rate Of Obesity(Adults) (Y)	Rate of exercise(X)			
	High	Low	Medium	Grand Total
High	33.3%	50.0%	77.8%	58.8%
Low	33.3%		5.6%	14.7%
Medium	33.3%	50.0%	16.7%	26.5%
Grand Total	100.0%	100.0%	100.0%	100.0%

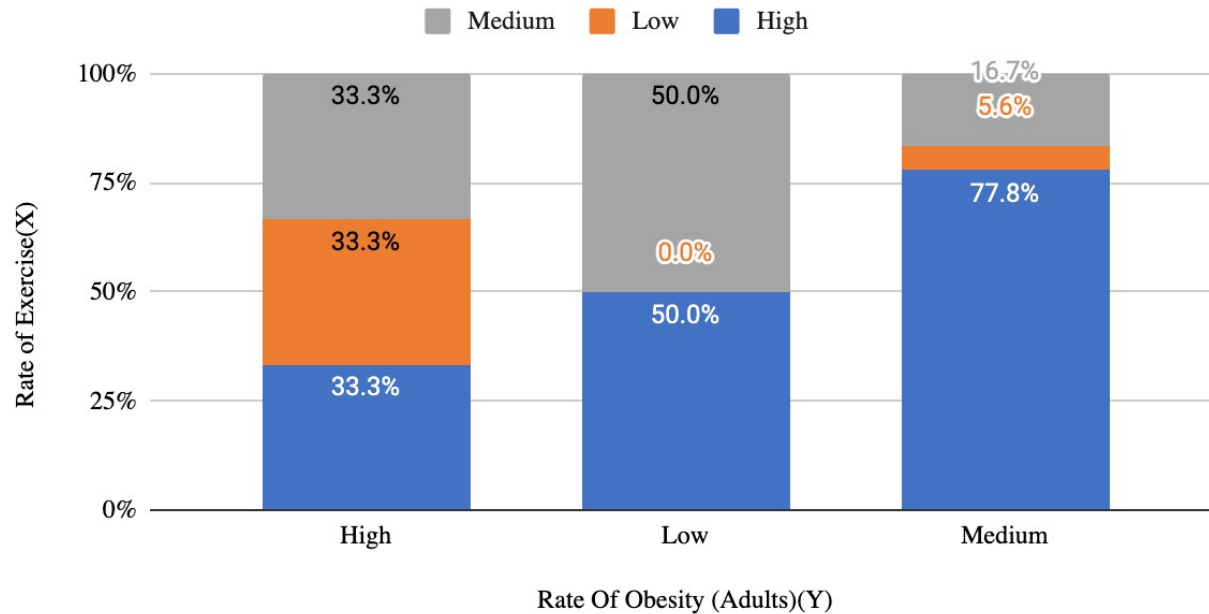
## Variable Definitions:

Rate of Obesity  
 High= more than 55%  
 Medium= 43.1 to 55%  
 Low=0 to 43%

Rate of Exercise  
 High= more than 75%  
 Medium= 63.1 to 75%  
 Low=0 to 63%

# Bar Graph

Rates of obesity reported in adults by the percentages of adults reporting exercise



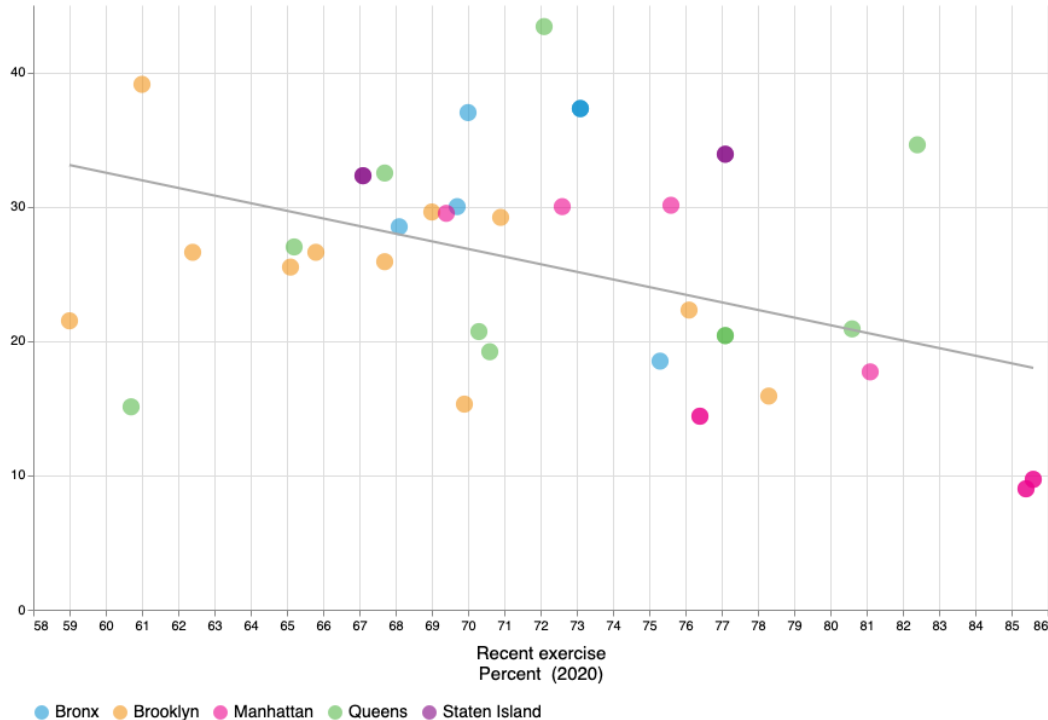


# Interpretation

In neighborhood areas where the rates of exercise reported were low, there was a 0% of low obesity rates. In rates where the rates of exercise were reported low, 50% had a medium rate of obesity and 50% had a high rate of obesity. In neighborhoods where the rates of exercise were reported as medium, 5.6% had low obesity rates, 16.7% had medium obesity rates and 77.8 had high obesity rates. In neighborhoods where the rate of exercise were high, 33.3% reported low obesity rates, 33.3% reported medium obesity rates and 33.3% reported high obesity rates.

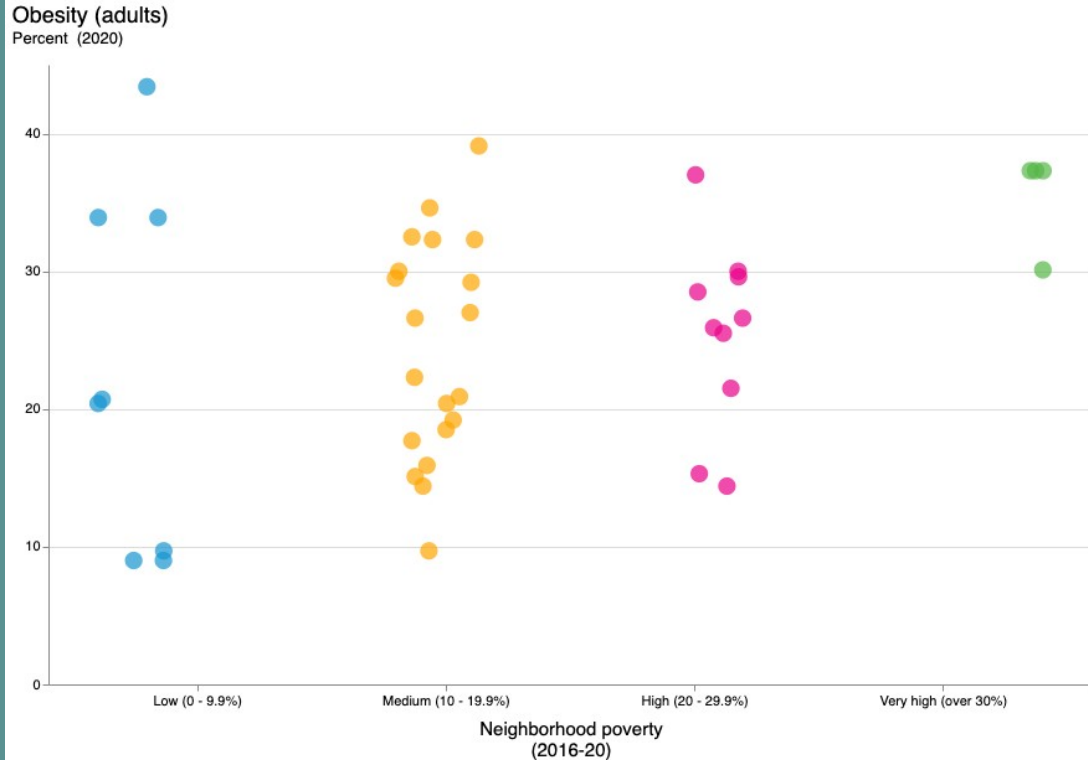
# Graphs

Obesity (adults)  
Percent (2020)



In this case we can see that there is an inverse correlation between the rates of obesity reported in adults and the rates of exercise reported. An inverse correlation can be defined as When two related variables move in opposite directions, their relationship is negative

# Graphs



There's a clear correlation between neighborhood poverty rates and disparities in adult obesity rates, often revealing higher obesity rates in areas with lower socioeconomic status. Limited access to fresh and healthy food options, coupled with higher availability of fast food and processed products, contributes significantly to these disparities.



# Findings

- Reid mentions that the reason for some of the high rates of obesity would be due to the environmental factors such as, the access to healthy food, physical activity or the access to transportation, and the rise in urban sprawl. The objective of the research is to simulate various health-related outcomes and behaviors using the most recent, improved, and verified county compactness/sprawl metrics. It is accepted that this trend has been significantly influenced by environmental influences, broadly defined.
- In the article provided by Grey, et. al. (2018), they have conducted an experiment detailing how environmental factors affect the physical inactivity of individuals. The obesity epidemic is mostly caused by lack of physical activity, which can be helped or hampered by environmental variables. The poor environmental quality in many neighborhoods and the lack of physical activity had a significant impact on the rates of obesity





# Findings

The study provided by Kim, Junhyoung, et al. aimed to examine the connections between the availability of green spaces, the prevalence of obesity, and various socioeconomic and demographic factors among adults residing in the state of Indiana, within the United States. Junhyoung Kim dives into this issue by conducting a secondary analysis to see the relationship between the two variables of the availability of green spaces and obesity. It was discovered that adult obesity rates were significantly influenced by the availability of green space. Additionally, research indicated that persons with greater county-level access to green space had a lower risk of obesity.



# Conclusion

There is no denying the importance of the association between obesity prevalence and activity rates. Research from the articles and the research I have conducted, it can be shown that physical activity and regular exercise are important factors in lowering the adult obesity risk. People who are physically active on a regular basis tend to be less obese than those who lead sedentary lifestyles, which increases their risk of obesity-related issues. In "Investigating the Relationship Between Accessibility of Green Space and Adult Obesity Rates: A Secondary Data Analysis in the United States" we can see that the access to green space, such as parks, gardens, playing fields plays a very important role because the rates of obesity are low as compared to those that don't have access to green spaces. Taking this factor into consideration, people would feel motivated to take a walk or even a jog in a space that is relatively close to them rather than in crowded streets or junctions. Another factor would be the limited access to fresh and healthy food options, in which communities in the lower economic region don't have many options or resources to fresh or healthy food options.



# Bibliography

[1] Ewing, Reid, et al. “Relationship between Urban Sprawl and Physical Activity, Obesity, and Morbidity – Update and Refinement.” *Health & Place*, Pergamon, 21 Dec. 2013, [www.sciencedirect.com/science/article/pii/S135382921300172X](http://www.sciencedirect.com/science/article/pii/S135382921300172X).

[2] Gray, Christine L., et al. “The Association Between Physical Inactivity and Obesity Is Modified by Five Domains of Environmental Quality in U.S. Adults: A Cross-Sectional Study.” *PLoS One*, vol. 13, no. 8, 2018, p. e0203301–, <https://doi.org/10.1371/journal.pone.0203301>.

[3] Kim, Junhyoung, et al. “Investigating the Relationship Between Accessibility of Green Space and Adult Obesity Rates: A Secondary Data Analysis in the United States.” *Journal of preventive medicine and public health*, vol. 54, no. 3, 2021, pp. 208–17.

[4] Active design data in NYC | environment & health data portal. (n.d.). <https://a816-dohbsp.nyc.gov/IndicatorPublic/beta/data-explorer/active-design/>