

Relationship between Sugary Drink Consumption and Rates of Obesity

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ECON 2505ID - OL60

12-12-23

What is the relationship between the number of adults reporting sugary drink consumption and rates of obesity by neighborhood?

The research topic, “What is the relationship between the number of adults reporting sugary drink consumption and rates of obesity by neighborhood?” explores the correlation between two variables adults consuming sugar-sweetened beverages and obesity within various neighborhoods. The data was taken from the New York City environment and Health Data Portal databases. The variable of sugary drink consumption is defined as the proportion of adults in a neighborhood who report consuming sugary drinks, which are known to affect health and contribute to dietary sugar intake. The second variable, rates of obesity, is measured as the percentage of adults in a neighborhood classified as obese according to standard Body Mass Index (BMI) criteria. By examining this data we aim to find a correlation between the two variables.

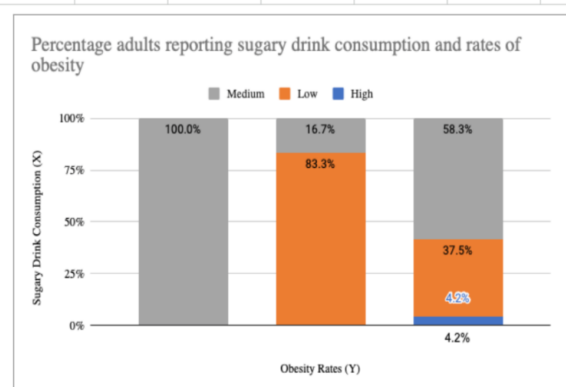
COUNTA of Sug Sugary Drinks Consumption(X)				
Obesity (Y)	High	Low	Medium	Grand Total
High			4.2%	2.4%
Low		83.3%	37.5%	45.2%
Medium	100.0%	16.7%	58.3%	52.4%
Grand Total	100.0%	100.0%	100.0%	100.0%

Percentage adults reporting sugary drink consumption and rates of obesity				
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Grand Total	100.0%	100.0%	100.0%	100.0%

Percentage adults reporting sugary drink consumption and rates of obesity: high = above 35%, med = 20.1 - 35%, low = less than 20%

Obesity rates among adults : high = above 35%, med = 20.1 - 35%, low = less than 20%

Source: NYC Health and Environment Data Portal, <https://a816-dohbosp.nyc.gov/indicatorPublic/beta/data-explorer/overweight/?id=2063#display-links>



When the sugary drink consumption was low, there was 83.3% had a low rate of obesity, 16.7% had a medium rate, and where the rate of sugary drink consumption was low. There was no incidence of obesity. When adults were consuming sugary drinks at a medium rate 37.5% had

a low obesity rate, 58.3% of neighborhoods had a medium rate and 4.2% of neighborhoods had a high rate of obesity. When drink consumption was high there weren't any reports of high levels and low levels of obesity, however, 100% of adults had medium obesity rates.

The data from the Environment & Health Data Portal reveals a concerning trend in the health of New Yorkers. More than half of the adult population in New York City is either overweight or obese. This unhealthy weight status increases their risk of developing numerous health conditions, including diabetes, high blood pressure, high cholesterol, cancer, and heart disease. The data also highlights the impact of socio-economic factors on health. Poor neighborhoods in New York City have higher rates of obesity and related deaths due to diabetes and heart disease compared to other neighborhoods. The types of drinks available in these neighborhoods may influence the food shopping habits and nutrition choices of residents, which is affecting their overall health.

The text by Keller, A., & Bucher Della Torre, S (2014), named, "Sugar-Sweetened Beverages and Obesity among Children and Adolescents", reviews the relationship between sugar-sweetened beverage consumption (SSB) and weight outcomes in children and adolescents, has findings from thirteen reviews. While a majority of the studies indicate a direct association between SSB consumption and obesity in this population, discrepancies are evident. Despite the discrepancies, the data leans towards supporting an association between SSB consumption and weight outcomes in children and adolescents. It emphasizes the public health significance of limiting SSB intake, especially among high-risk groups. The research concludes that a majority of reviews indicate a correlation between sugar-sweetened beverage consumption and weight issues in children and adolescents, despite conflicting findings. It emphasizes the public health importance of limiting SSB intake and calls for improved research quality to ensure reliable outcomes. (Keller, et. al (2014)

The report from the Centers for Disease Control and Prevention (CDC) (2018) titled "Get the Facts: Sugar-Sweetened Beverages and Consumption," provides data on the consumption of sugar-sweetened beverages (SSB) in the United States. It states that SSB consumption varies according to age, sex, race/ethnicity, geography, and socioeconomic status. In 2011-2014, 63% of youth and 49% of adults drank a sugar-sweetened beverage on a given day. On average, US youth consumed 143 calories from SSBs and US adults consumed 145 calories from SSBs. The report concludes that limiting sugary drink intake can help individuals maintain a healthy weight and dietary plan. (CDC, 2018)

The article "Consumption of Soft Drinks and Overweight and Obesity Among Adolescents in 107 Countries and Regions" by Huan Hu, Jing Song, and Graham A. MacGregor, (2023) studies the association of soft drink consumption with overweight and obesity in adolescents using both country-level and individual data. The study found that daily soft drink consumption was associated with the prevalence of overweight and obesity among 405,528 school-going adolescents from 107 countries and regions. One study found that a 1.7% increase in sugary drink consumption led to a 4.8% increase in obesity. The study also found that obesity among adolescents is higher in low and middle-income countries than in high-income countries. The study suggests that implementing soft drink taxes could be an effective policy to reduce the frequency of obesity among adolescents because it has been successful in reducing the consumption of sugary drinks in some countries. This suggests that reducing soft drink consumption could be a strategy to combat the global obesity epidemic. However, further research is needed to establish a causal relationship and to explore the potential findings.

The report, "Sugar-Sweetened Beverages and Weight Gain in Children and Adults" by Maria Luger found that 26 of the 27 studies that tracked a group of individuals over time and

recorded their weight or body mass index (BMI) and the use of sugary drinks indicated a positive correlation between sugary drinks and obesity. Accordingly, those who drank more sugar-filled beverages had a greater BMI or weight than those who drank less or none at all. According to the statistics, sugar-filled beverages are a factor in obesity in children and adults. The Cochrane Library, EMBASE, and MEDLINE databases were searched by the authors to find comparable research and controlled trials that were released between January 2013 and October 2015. Thirty articles, one with a total of 242,352 individuals met their criteria the main findings of the review were that 96% of adults and children showed a positive association between consumption of sugary and weight. The authors concluded that public health policies should aim to reduce the consumption of sugary drinks and encourage healthy alternatives such as water more research is needed to evaluate the effectiveness of these policies on sugary drink consumption and health outcomes.

In conclusion, the research underscores the positive correlation between sugary drink consumption and obesity in diverse neighborhoods. To combat this issue we need to target public health campaigns to raise awareness, policies like taxing sugary drinks and restricting advertising, affordable alternatives, and advocating for changes in the food environment By combining these efforts making a change in sugary drink consumption is achievable.

Keller, A., & Bucher Della Torre, S. (2015). Sugar-Sweetened Beverages and Obesity among Children and Adolescents: A Review of Systematic Literature Reviews. *Childhood obesity (Print)*, 11(4), 338–346. <https://doi.org/10.1089/chi.2014.0117>

CDC. “Get the Facts: Sugar-Sweetened Beverages and Consumption .” *Centers for Disease Control and Prevention*, 23 Oct. 2018, www.cdc.gov/nutrition/data-statistics/sugar-sweetenehttps://jamanetwork.com/journals/jamanetworkopen/fullarticle/2807548

Hu H, Song J, MacGregor GA, He FJ. Consumption of Soft Drinks and Overweight and Obesity Among Adolescents in 107 Countries and Regions. *JAMA Netw Open*. 2023 <https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2807548>

Luger, Maria, et al. “Sugar-Sweetened Beverages and Weight Gain in Children and Adults: A Systematic Review from 2013 to 2015 and a Comparison with Previous Studies.” *Obesity Facts*, vol. 10, no. 6, 2017, pp. 674-693, doi:10.1159/000484566. <https://karger.com/ofa/article/10/6/674/239560/Sugar-Sweetened-Beverages-and-Weight-Gain-in>