

Impact of Neighborhood Socioeconomic Status on Physical Activity Among New York City Adults

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Physical activity is essential for maintaining good health because it reduces the risk of chronic conditions such as heart disease, diabetes, and obesity, while also improving mental health and overall well-being¹. Despite its numerous health benefits, most individuals do not make an effort to exercise as frequently as recommended. According to a recent report from the CDC, about 72% of Americans do not participate in enough physical activity². This is reflective of an evolving, technology-driven society, which often tends to promote stationary behaviors. There are significant disparities in physical activity participation driven by systemic barriers, such as limited access to exercise facilities, few safe and well-maintained parks, high crime rates, and inadequate infrastructure, particularly in high-poverty neighborhoods. A potential underlying cause for these disparities is differences in socioeconomic status (SES). While these disparities reflect broad socioeconomic and environmental factors on a national level, addressing them at the state or city level—such as in New York City—allows for targeted interventions that take into account the local neighborhood socioeconomic status and household incomes³. Addressing these disparities is crucial to improving physical activity rates and advancing health equity by ensuring that all individuals, regardless of socioeconomic background, can access the health benefits associated with regular exercise. This data brief explores the relationship between neighborhood poverty levels and participation in physical activity over the past 30 days among NYC adults ages 18 and older. Using data from the 2020 NYC Community Health Survey, the study aims to shed light on how SES, particularly neighborhood poverty levels, influences physical activity levels. These results can be used informatively for potential policies and interventions that promote equitable access to physical activity for all adults in New York.

Definitions: **Neighborhood Poverty Level:** Refers to the percent of zip code population living below 100% Federal Poverty Level (FPL) per American Community Survey, 2015-2019. The categories are low poverty (less than 10% of the population living below the FPL), medium poverty (10% to less than 20% living below the FPL), high poverty (20% to less than 30% living below the FPL), and very high poverty (30% to 100% living below the FPL). **Physical Activity Participation:** Self-reported response to the question, “During the past 30 days, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?” Choices included yes and no. **Chronic Conditions:** Refers to long-term health issues that persist over time and often require ongoing medical treatment or management. **Physical Activity (in general):** Bodily movement that requires energy expenditure. **Household Income:** The combined annual income of all members of a household, including earnings from wages, salaries, investments, and other sources. **Health Disparities & Inequities:** Unjust and preventable differences in health outcomes and healthcare access, shaped by social determinants of health such as socioeconomic status, race/ethnicity, neighborhood & environment, and education, driven by systemic inequalities.

(Note: The 2020 CHS data relies on self-reported answers, which may contain reporting bias, and is limited to people with a telephone or ability to use one, potentially excluding marginalized populations. Additionally, the neighborhood poverty level variable is based on zip-code-level data, which may not reflect individual or household poverty experiences.)

Description of the Population:

- The sample population included 8,771 respondents aged 18 and older who resided in NYC.
- Respondents were randomly selected, had access to a landline or cellular device, and were capable and willing to respond to survey questions.
- The variable *exercise20* was used to measure whether a respondent participated in physical activity, 6,360 (72.51%) individuals responded yes when asked if they had participated in exercise outside of work in the past 30 days.

¹ Better Health Channel. Physical activity - it's important. Better Health Channel. Published November 17, 2023. <https://www.betterhealth.vic.gov.au/health/healthyliving/physical-activity-its-important>

² Abildso CG. Prevalence of meeting aerobic, muscle-strengthening, and combined physical activity guidelines during leisure time among adults, by rural-urban classification and region — united states, 2020. *MMWR Morbidity and Mortality Weekly Report*. 2023;72(4). doi:<https://doi.org/10.15585/mmwr.mm7204a1>

³ York N, Comptroller C, Liu J. *Income Inequality in New York City*; 2012. https://osaunion.org/news/aug12/NYC_Income_Inequality_Report_Comptroller.pdf

- The variable *imputed_neighpovgroup4_1519* was used to measure neighborhood poverty levels, and distributed as follows: 20.72% of NYC adults reported living in low (0 - <10%) poverty neighborhoods, 43.87% of NYC adults reported living in medium (10 - < 20%) poverty neighborhoods, 22.06% of NYC adults reported living in high (20 - < 30%) poverty neighborhoods, and 13.35% in very high (30 - 100%) poverty neighborhoods.

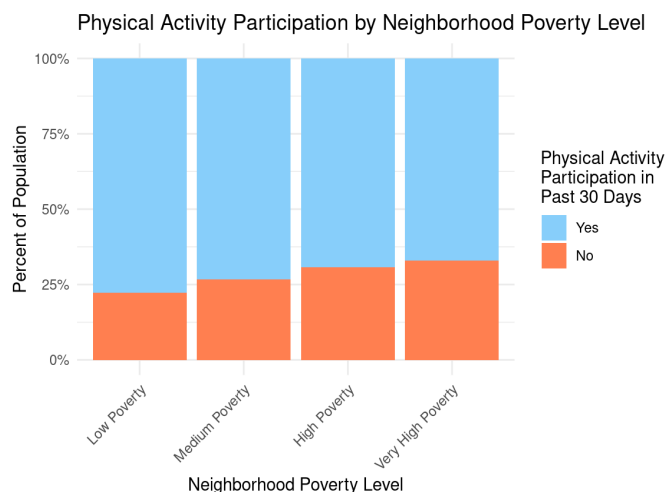
New York City Adults Living in Low Poverty Neighborhoods Had Higher Physical Activity Rates Compared to Overall Survey Average

- In 2020, the average rate of participation in physical activity outside of work in the past 30 days was 72.51%.

- NYC adults living in low poverty neighborhoods (0 - < 10% living below the FPL) had a participation rate of 77.82% in physical activity, meaning over three-quarters reported exercising outside of work in the past 30 days.

Adults Living in High Poverty Neighborhoods in New York City Had the Second-Lowest Rate of Physical Activity Participation

- Individuals who reported residing in high poverty neighborhoods (20 - <30% living below the FPL) had a participation rate of 69.35% in physical activity, over 3% less than the average of adults in New York City.



Source: New York City Community Health Survey, 2020

Implications: The findings from our study of the 2020 Community Health Survey data highlight how socioeconomic factors, such as neighborhood poverty levels, influence participation in physical activity among adults (18+) in New York City. Individuals who reported residing in high and very high poverty neighborhoods exhibited the lowest participation rates in physical activity outside of work in the past 30 days. Response variation between poverty level groups showed a notable 10% difference, underscoring how socioeconomic inequality coupled with historical disparities, such as poor transportation options and the unequal distribution of outdoor parks and community recreational centers, contributes to health inequities and limits physical activity participation in lower-income communities. Targeted public health interventions are needed to decrease neighborhood disparities, such as increasing access to affordable fitness programs and improving community spaces for physical activity. Addressing these disparities is crucial to promoting health equity, because of the various health benefits associated with participating in physical activity.

Physical Activity Participation in the Past 30 Days by Neighborhood Poverty Level

	Overall	Low Poverty	Medium Poverty	High Poverty	Very High Poverty
	N = 8,771 [†]	N = 1,817 [†]	N = 3,848 [†]	N = 1,935 [†]	N = 1,171 [†]
Characteristic					
Percent of Population that Participated in Physical Activity Outside of Work in the Past 30 Days	72.51% (6,360)	77.82% (1,414)	73.26% (2,819)	69.35% (1,342)	67.04% (785)
[†] % (n)					

Source: New York City Community Health Survey, 2020

New York City Adults Living in Very High Poverty Neighborhoods Had Lowest Rates of Physical Activity Participation

- Individuals who reported living in very high poverty neighborhoods (30-100% living below FPL) had the lowest affirmative response rate of physical activity, with 67.04% of individuals responding yes to having participated in physical activity outside of work in the past 30 days.

- Overall, as poverty level increased, there was an associated marginal decrease in responses of yes to physical activity in the past 30 days