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## The Effect of Income on Daily Physical Activity Levels in Americans

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# The Effect of Income on Daily Physical Activity Levels in Americans

Jacob Foster

## Overview

Objective:

- To study the relationship between the amount of exercise Americans get on a daily basis compared with the amount of money they earn each year.

Importance:

- The lack of physical activity in America is contributing to poor healthcare outcomes such as obesity, diabetes, heart disease, and high blood pressure. If this trend continues, healthcare costs could continue to accelerate and healthcare outcomes could continue to worsen.

Contribution:

- I utilize the Ordinary Least Squares method to evaluate the factors that explain the physical activity levels of Americans.
- My analysis attempts to control for age and education level, both of which are factors that affect how much physical activity an individual does and how much money an individual earns, respectively.
- My conditional mean (OLS) model shows a positive correlation between the amount of money an individual makes with the number of days each week they engage in physical activity.

## Data

Source of Data:

- The data for this research was sourced from the Health Information National Trends Survey website. The specific question that was asked to respondents was, "In a typical week, how many days do you do any physical activity or exercise of at least moderate intensity, such as brisk walking, bicycling at a regular pace, swimming at a regular pace, and heavy gardening?"

Control Variables:

- The control variables for this research were:**
- The number of minutes per week physical activity was performed**
- The age of the respondents**
- And the education levels of the respondents**

VARIABLES	(1)	(2)	(3)	(4)
	timesperw	timesperw	timesperw	timesperw
	eek	eek	eek	eek
incomeranges	0.505*** (0.0639)	-0.138*** (0.0464)	-0.101** (0.0486)	-0.0741 (0.0548)
weeklyminutes		1.354*** (0.0287)	1.374*** (0.0293)	1.385*** (0.0297)
age			0.340*** (0.0806)	0.323*** (0.0819)
education				-0.106 (0.0843)
Constant	1.962*** (0.108)	-2.594*** (0.153)	-4.104*** (0.364)	-4.010*** (0.379)
Observations	3,781	2,489	2,334	2,288
R-squared	0.016	0.473	0.489	0.490

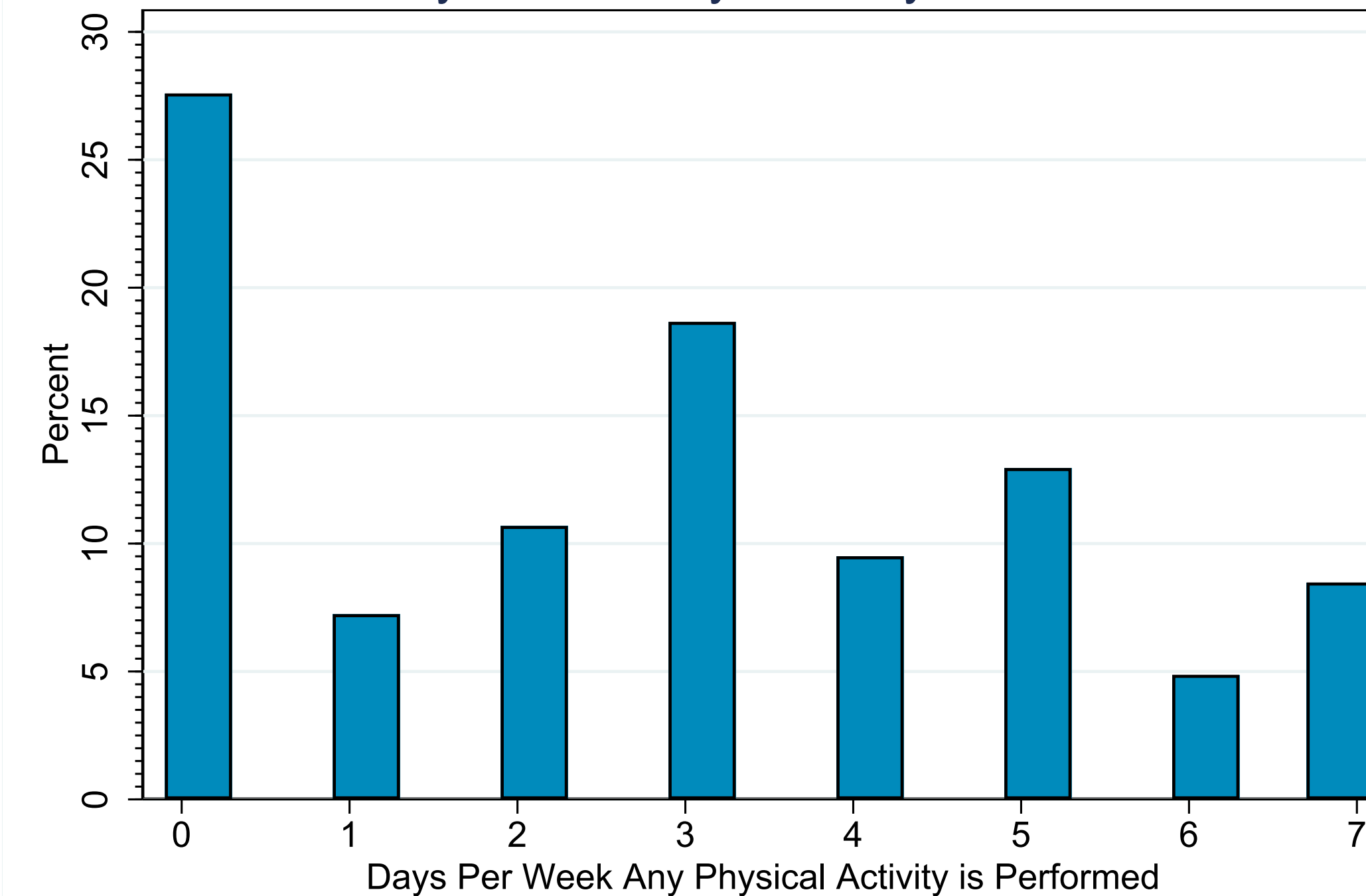
Standard errors in parentheses  
\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Variable	Obs	Mean	Std. dev.	Min	Max
timesperweek	3,798	2.759874	2.287305	0	7
incomerange	3,847	5.505849	2.285841	1	9
weeklyminutes	3,547	112.3755	118.1935	0	480
age	3,519	56.16283	15.38592	22	83
education	3,722	3.110693	.9579151	1	4

## Methodology

- For this research, I used the Ordinary Least Squares methodology. OLS estimators have the least variance among all linear and non-biased estimators. OLS also produces the best possible coefficient estimates when the model satisfies OLS assumptions for linear regression.

Physical Activity Per Days of Week



## Summary

My main findings are:

- The OLS estimates show that there is a positive relationship between the amount of money someone makes and the amount of physical activity that they engage in each day over the course of a week.
- These findings are similar to other studies that have been conducted on the same topic.

Implications:

- The results of this study reinforce the idea that there exists a gap in the amount of physical activity that lower income individuals get as compared to high income earners.
- The reason for this gap has not been thoroughly explored but may be a result of lack of access to gyms, parks, time off from work, and personal transportation that saves time as compared to some forms of public transportation.