

Racial and ethnic disparities of the 24-hour movement guideline adherence among adults in the United States

Authors: Jhoceline Moza, Tiffany Kindratt, Yue Liao

Health Survey Research (HSR) Lab and Physical Activity and Wearable Sensors (PAWS) Lab



Introduction

- The 24-hour Movement Guidelines recommend people ages 18-64 and 65+ years are physically active, get good amount of sleep and limit sedentary behavior.
- Following these guidelines help provide lower mortality rate, low risk of chronic disease and improve the quality of life.

Objectives

- Determine the prevalence of guideline adherence among US adults ages 18-64 and 65+ years.
- Determine whether the odds of adherence is different among minority individuals compared to non-Hispanic Whites.

Methods

- Data from pre-pandemic 2017-2020 NHANES of sleep, physical activity, sedentary behavior and demographics were obtained and analyzed.
- Physical activity was measured by the minutes of recreational activity done per week (150+ minutes adherent).
- Sleep was measured by the number of hours per night (7-9 hours adherent for 18-64 years & 7-8 hours adherent for 65+ years).
- Sedentary behavior was measured by the minutes of sedentary activity per day (<480 minutes adherent).
- Logistic regression and descriptive statistics were conducted.

Results

Table 1: Selected Characteristics of 2017-2020 Pre-Pandemic NHANES Sample

	Obs=N (weighted %)
Race/Ethnicity	
Non-Hispanic White	3,370 (62.2)
Non-Hispanic Black	2,555 (11.5)
Hispanic	2122 (16.3)
Non-Hispanic Asian	1172 (6.0)
Non-Hispanic Other/Multiple	474 (4.1)
Gender	
Male	4,718 (48.2)
Female	4975 (51.8)
Age	
18-64 years	7282 (79.6)
65+ years	2411 (20.4)
Nativity Status	
Foreign-born	2739 (19.2)
US-born	6949 (80.8)
Marital Status	
Not Married	3943 (38.4)
Married	5279 (61.6)
Education Level	
Less than high school graduate	1760 (11.0)
High school diploma	2225 (27.0)
Some college or associate degree	2975 (30.5)
College degree or higher	2257 (31.5)

Results

Figure 1: Age and sex-adjusted prevalence of 24-hour guidelines adherence, 18-64 years

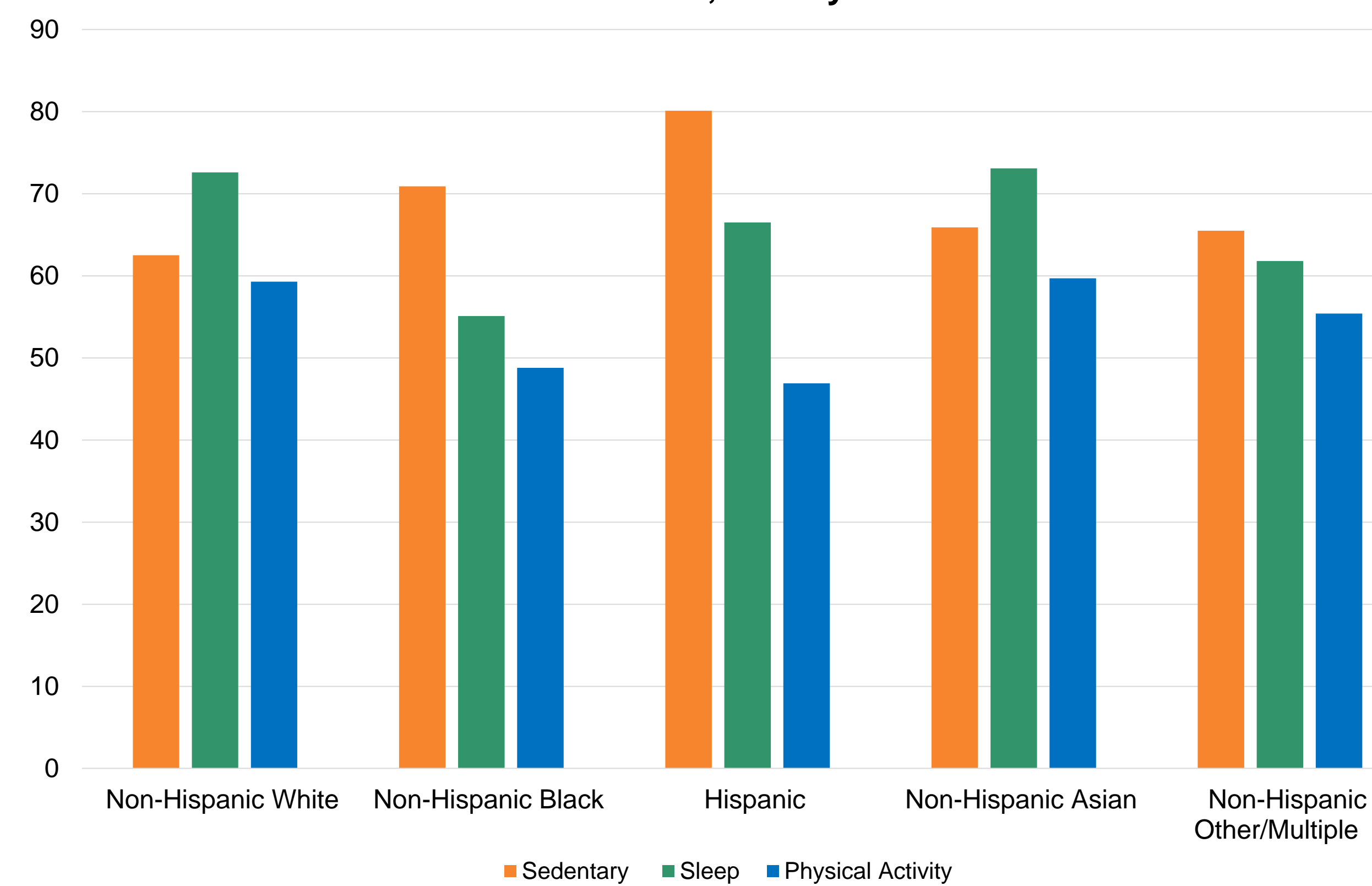


Figure 2: Age and sex-adjusted prevalence of 24-hour guidelines adherence, 65+ years

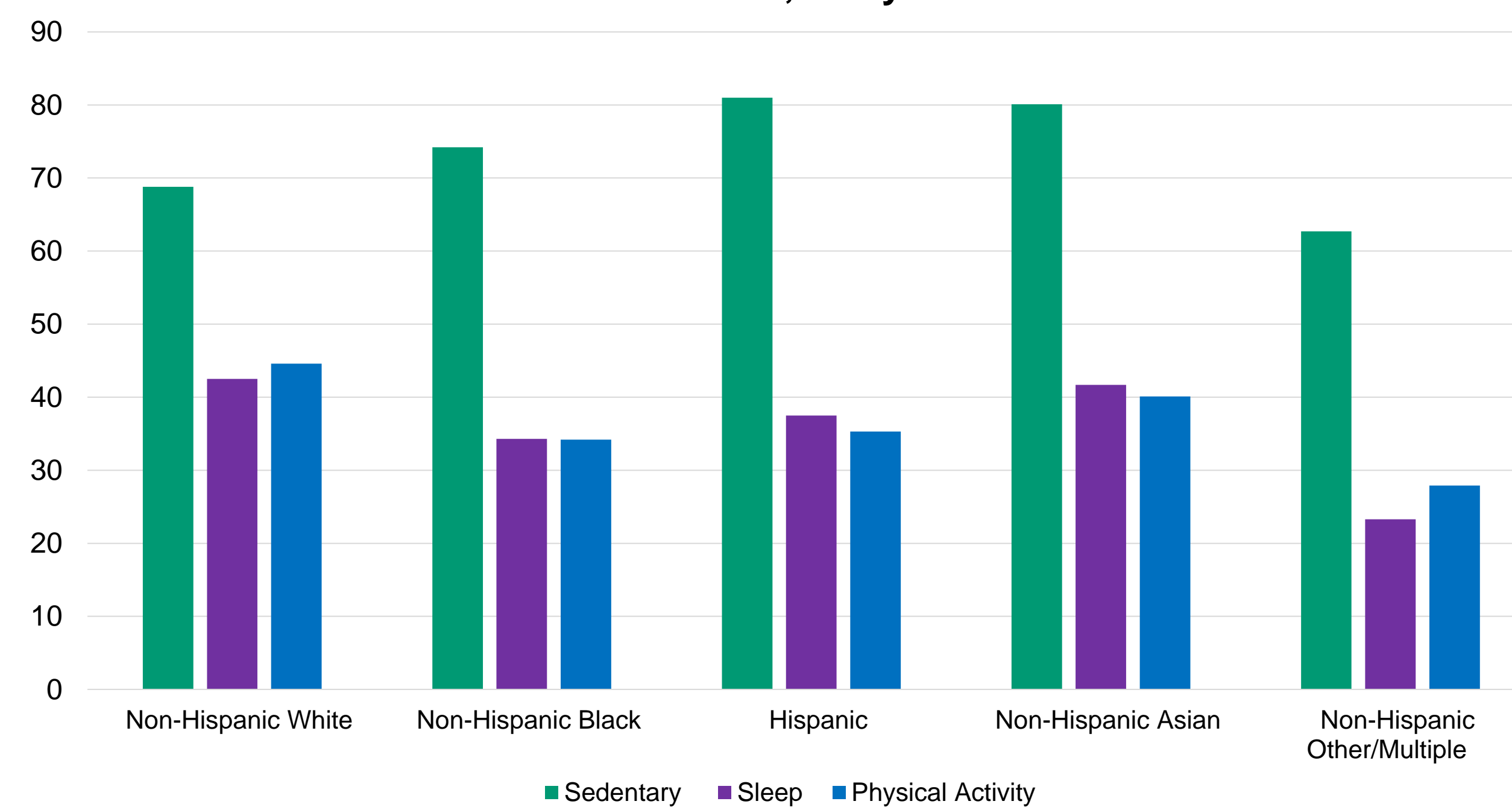


Table 2: Initial unadjusted logistic regression analysis

	Meets Sedentary Guideline OR (95% CI)	Sleep 7-9 hours 18-64 years 7-8 hours 65+ OR (95% CI)	Physical Activity 150 minutes moderate or vigorous recreational activities OR (95% CI)
Adults Ages 18-64 years			
Race/Ethnicity			
Non-Hispanic White	1.00	1.00	1.00
Non-Hispanic Black	1.46 (1.19, 1.79)	0.46 (0.38, 0.57)	0.68 (0.56, 0.82)
Hispanic	2.41 (1.77, 3.28)	0.75 (0.64, 0.88)	0.66 (0.57, 0.78)
NH Asian	1.16 (0.94, 1.42)	1.02 (0.84, 1.25)	1.05 (0.80, 1.38)
NH Other/Multiple	1.14 (0.72, 1.80)	0.61 (0.48, 0.78)	0.87 (0.59, 1.29)
Adults Ages 65+ years			
Race/Ethnicity			
Non-Hispanic White	1.00	1.00	1.00
Non-Hispanic Black	1.31 (1.06, 1.61)	0.71 (0.55, 0.92)	0.67 (0.51, 0.89)
Hispanic	1.96 (1.34, 2.87)	0.82 (0.57, 1.19)	0.72 (0.54, 0.98)
Non-Hispanic Asian	1.83 (1.34, 2.49)	0.97 (0.65, 1.45)	0.84 (0.61, 1.16)
Non-Hispanic Other/Multiple	0.79 (0.41, 1.53)	0.44 (0.28, 0.68)	0.56 (0.25, 1.26)

Discussion

- Non-Hispanic Blacks and Hispanic adults were more likely to meet sedentary guidelines compared to non-Hispanic Whites.
- Half of all adults were adherent to meet the physical activity guidelines while most adults were adherent to meeting sedentary guidelines.
- Non-Hispanic Asians ages 18-64 years had a higher odds of meeting physical activity guidelines than non-Hispanic Whites.
- There was no difference between Non-Hispanic Asians and Non-Hispanic other/multiple races in all three of the guidelines.
- To further examine the prevalence of guideline adherence among US adults ages 18-64 years and 65+ years, examining sleep consistency, intensity of physical activity, amount of screen time and time spent sitting. This can help further understand if US adults have met the adherence guidelines.



B.S. Public Health

COLLEGE OF NURSING AND HEALTH INNOVATION