

Location Affects Physical Activity Rates: Rural and Urban Comparisons

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1.BACKGROUND

- Physical activity in America is unequally distributed¹
- Rapid urbanization could be a cause for this.
- This project aims to find out if geographic location can influence physical activity.
- The results could help reduce the risk of disease for Americans.

2.HYPOTHESIS

Adults living in rural areas will have significantly higher rates of physical activity than those living in urban areas.

3.METHOD

- 4 states were selected based on their population density.
- New York, New Jersey, Alaska & Wyoming.
- Data retrieved from the Center for Disease Control and Prevention (CDC).
- Adult physical activity indicator was selected.
- ANOVA test was conducted to determine if there was a significant difference between the states.
- T-test with a Bonferroni adjustment to find out which of the states is significantly different.



4.RESULTS

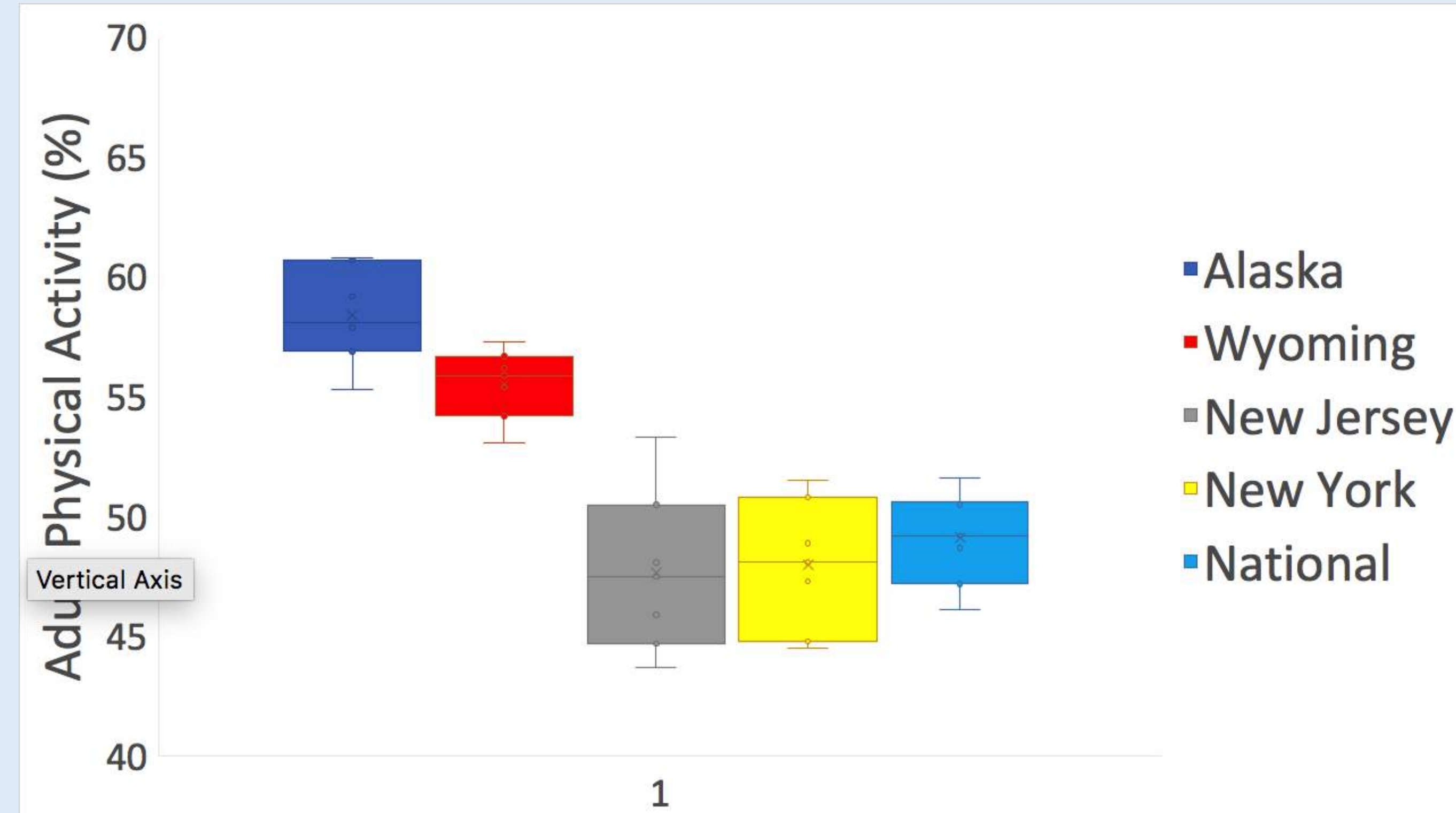


Figure 1. Box and Whisker plot of adult physical activity (%) for each state including the national average.

Test	P - Value	Significant?
Alaska vs. Wyoming	0.010599	N
Alaska vs. New Jersey	0.0000267	Y
Alaska vs. New York	0.0000051	Y
Alaska vs. National	0.0000015	Y
Wyoming vs. New Jersey	0.0004603	Y
Wyoming vs. New York	0.0001107	Y
Wyoming vs. National	0.0000250	Y
New Jersey vs. New York	0.8505747	N
New Jersey vs. National	0.3452214	N
New York vs. National	0.3853520	N

Table 1. ANOVA results showing the summary of P-Values from the post hoc tests for each state and whether the results were significant.

LIMITATIONS

- Only 4 states were selected out of 50 states in U.S.A
- This is not a representative sample.
- Political party affiliation was not considered.
- New York & New Jersey are democrats.²
- Alaska & Wyoming are republicans.²
- Political parties have the power of influencing belief.

REFERENCES

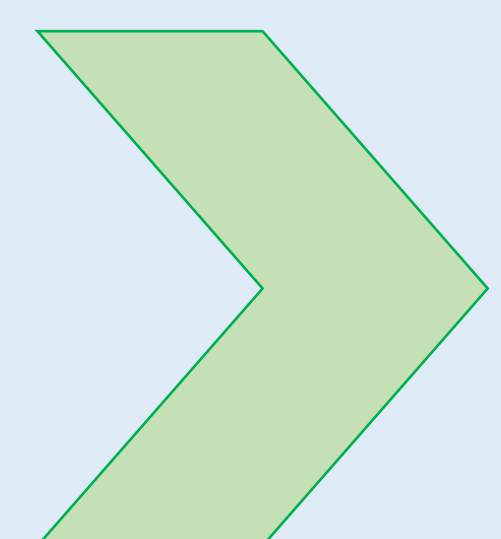
¹Centers for Disease Control and Prevention. (n.d.).

<https://www.cdc.gov/>

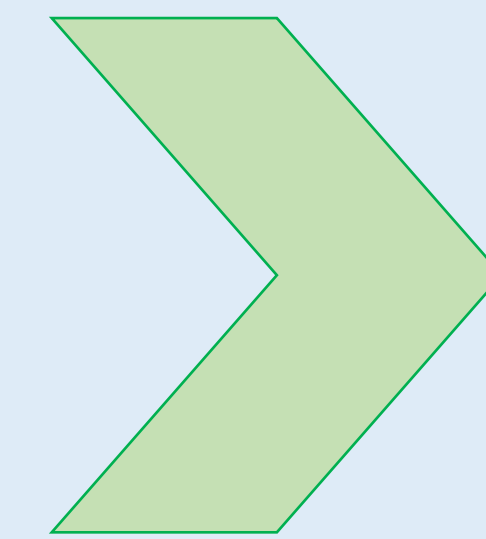
²Religion in America: U.S. Religious Data, Demographics and Statistics. (2020, December 09)

<https://www.pewforum.org/religion-us-landscape-study/compare/party-affiliation/by/state/>

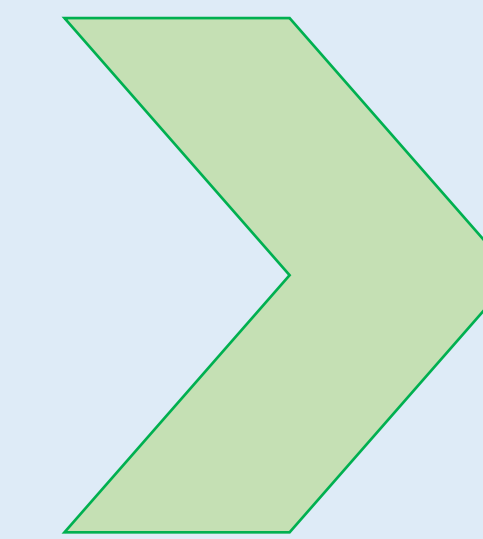
5. TAKE HOME POINTS



Adults in rural areas have significantly higher activity rates



There are other studies that show similar results



The results can help healthcare industry & be very useful in future studies