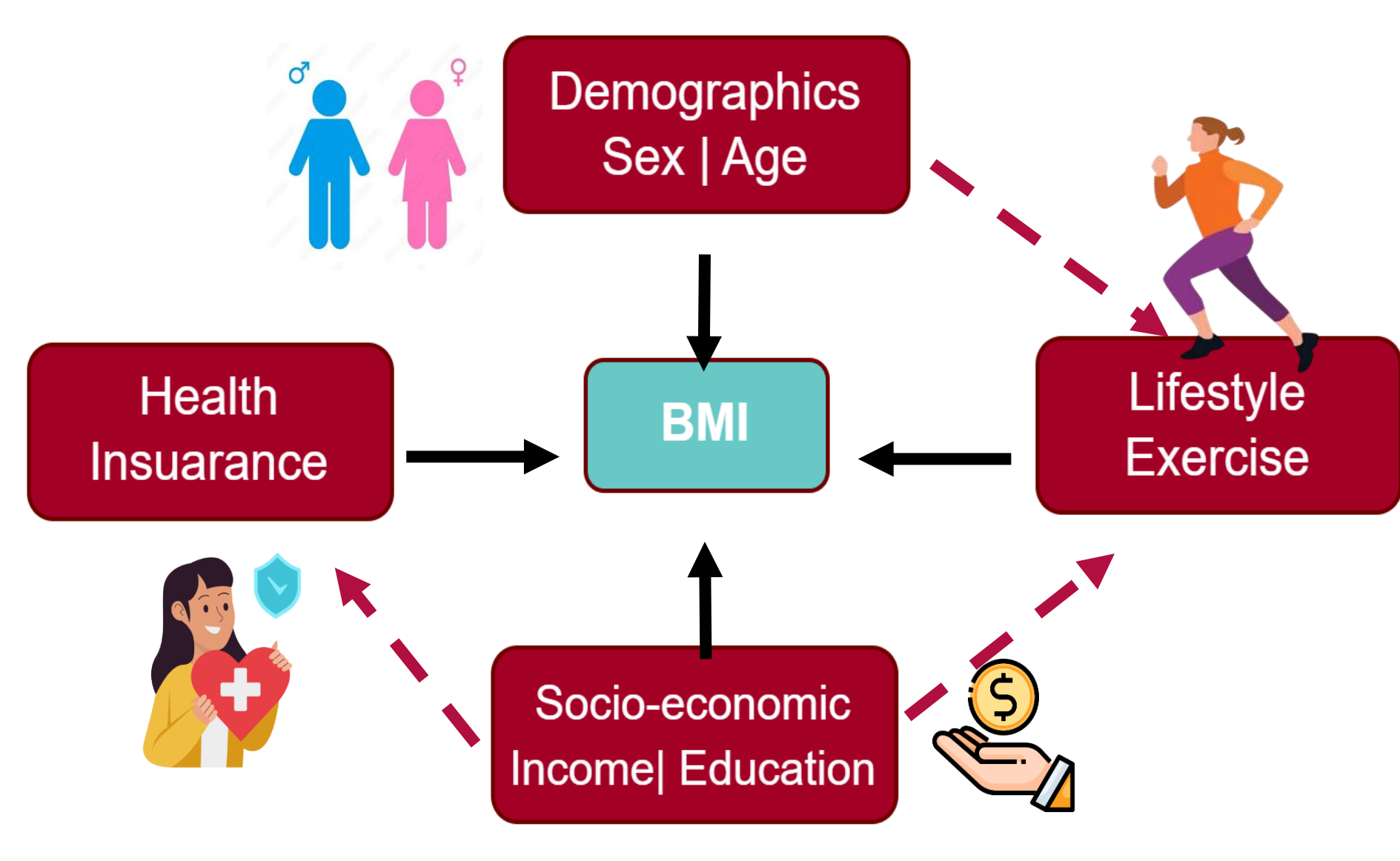


Background

- Obesity is a leading public health challenge linked to critical health risks and economic burdens
- In 2022, 41.9% of U.S. adults were Obese
- Obesity is influenced by a complex interaction of geographic, social, and behavioral factors
- There is a need to explore how these factors collectively influence Body Mass Index (BMI)
- Body Mass Index (BMI) is a crucial health metric used to categorize individuals based on body fat and health risk levels.

Research Goals

- Examine the relationship between BMI and demographic and socioeconomic factors.



Data and Measures

- Data:** Secondary Analysis of 2022 Behavioral Risk Factor Surveillance System (BRFSS)
- Sample size:** 278,969
- Analysis:** Used R Software to conduct descriptive and bivariate inferential analyses using chi-squared and the Kruskal-Wallis test

Results

Correlates of obesity for 278,969 people who participated in the BRFSS (2022)

	Underweight (N=4204)	Normal Weight (N=79124)	Overweight (N=98762)	Obese (N=96879)	Overall (N=278969)	p-value
Age						
Mean (SD)	51.3 (20.8)	52.1 (18.9)	54.6 (16.9)	53.3 (15.7)	53.4 (17.2)	<0.001
Median [Min, Max]	54.0 [18.0, 80.0]	53.0 [18.0, 80.0]	56.0 [18.0, 80.0]	54.0 [18.0, 80.0]	55.0 [18.0, 80.0]	
Highest Educational Attainment						
Elementary	85 (2.0 %)	884 (1.1%)	1294 (1.3%)	1524 (1.6%)	3787 (1.4%)	<0.001
High school	1408 (33.5%)	19055 (24.1%)	25090 (25.4%)	28528 (29.4%)	74081 (26%)	
College	2711 (64.5%)	59185 (24.1%)	72378 (73.3%)	66827 (69.0%)	201101 (72.1%)	
Has Health Insurance						
Have some form of insurance	3896 (92.7%)	74922 (94.7%)	93883 (95.1%)	92211 (95.2%)	264912 (95.0%)	<0.001
No health insurance	308 (7.3%)	4202 (5.3%)	4879 (4.9%)	4668 (4.8%)	14057 (5.0%)	
Physical Activity Status						
Had physical activity or exercise	3064 (72.9%)	66037 (83.5%)	79754 (80.8%)	67824 (70.0%)	216679 (77.7%)	<0.001
No physical activity or exercise in last 30 days	1140 (27.1%)	13087 (16.5%)	19008 (19.2%)	29055 (30.0%)	62290 (22.3%)	
Sex						
Male	1501 (35.7%)	33827 (42.8%)	56655 (57.4%)	46948 (48.5%)	138931 (49.8%)	<0.001
Female	2696 (64.1%)	45230 (57.2%)	42062 (42.6%)	49843 (51.4%)	139831 (50.1%)	
Nonbinary	7 (0.2%)	67 (0.1%)	45 (0.0%)	88 (0.1%)	207 (0.1%)	

Data source: https://www.cdc.gov/brfss/annual_data/2022/files/LLCP2022XPT.zip

Results Continued

- Exercise and BMI:** Of those who were physically active, significantly fewer than expected were classified as obese while more inactive participants than expected were classified as obese
- Education and BMI:** Higher education levels are associated with normal BMI.
- Health Insurance and BMI:** Uninsured individuals were more likely to be underweight, pointing towards potential barriers to accessing adequate nutrition and healthcare.
- Income and BMI:** Lower income levels associated with higher rates of both underweight and obesity, highlighting the socio-economic dimensions of health.

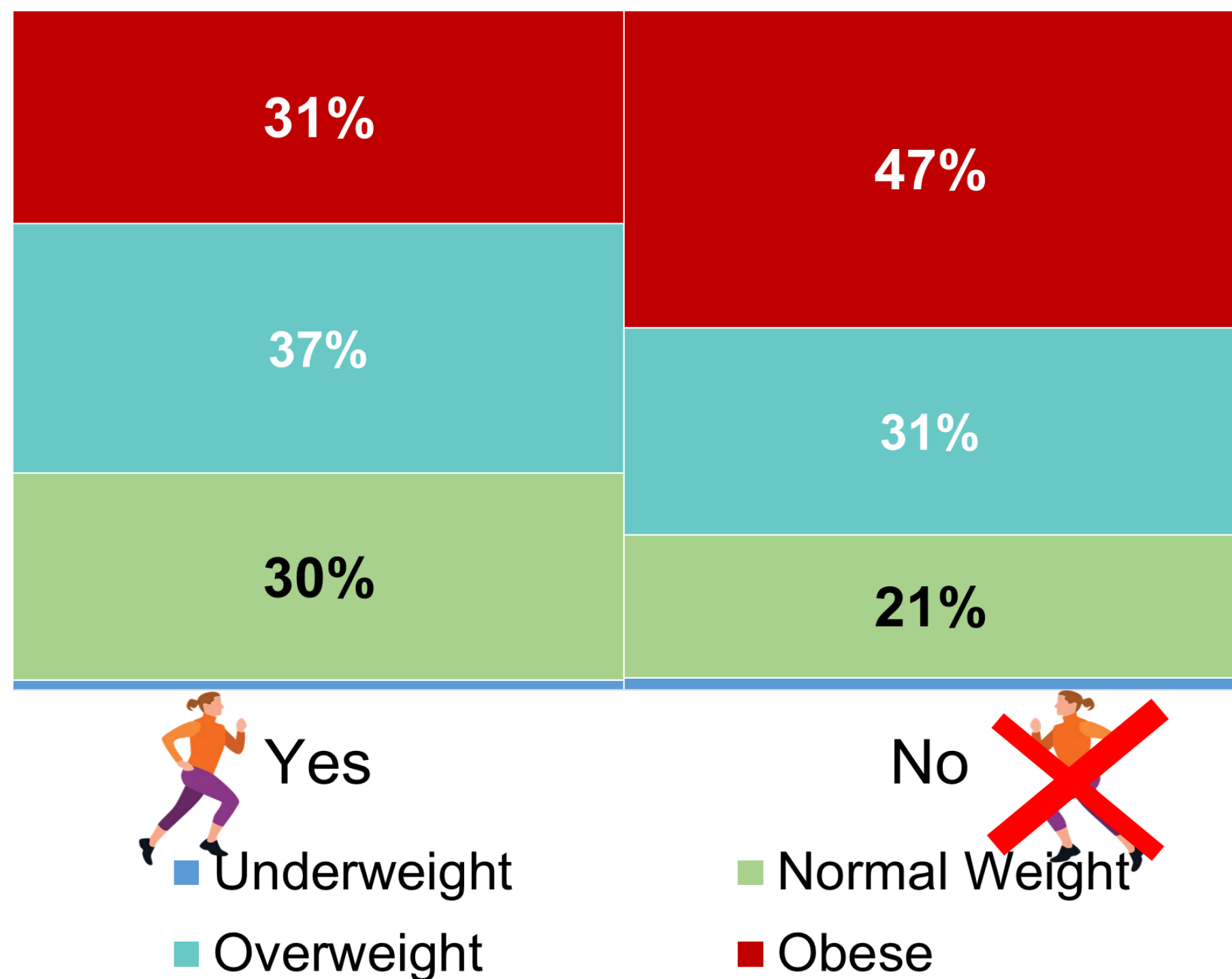
Discussion and Conclusions

- Regular physical activity is significantly associated with healthier BMI categories, highlighting the critical importance of **promoting walkable** neighborhoods and **active lifestyles** across all demographics.
- Higher levels of educational attainment correlate with lower BMI, suggesting need for **targeted intervention** for less-educated groups such as **Community Health Workshops**.
- Socioeconomic factors such as health insurance status and income level play a substantial role in determining BMI. Suggesting a need for holistic intervention such as **financial empowerment** and expansion of **health insurance**.

Study Limitations

- Cross Sectional Design:** limits our ability to infer causality due one-time observations of the factors.
- BMI Metric Flaws :** BMI does not differentiate between muscle and fat mass, leading to potential misclassification of health status, particularly in athletes . Include other measures such as waist circumference or body fat percentage

BMI Categories by Exercise



Declining Obesity Rates with Increasing Educational Attainment

