Physical Activity Vs. Obesity Project Guide

Does Physical Activity Reduce the Likelihood of Obesity?

Objective

Evaluate whether individuals who engage in physical activity are less likely to be obese (BMI > 35).

Variables

- Target variable: `obese` (1: No, 2: Yes)
- Predictors:
  - `vigwrk`: Vigorous Work Activity (1: Yes, 2: No)
  - `modwrk`: Moderate Work Activity (1: Yes, 2: No)
  - `wlkbik`: Walk or Bicycle (1: Yes, 2: No)
  - `vigrecexr`: Vigorous Recreational Activities (1: Yes, 2: No)
  - `modrecexr`: Moderate Recreational Activities (1: Yes, 2: No)
  - `sedmin`: Minutes of Sedentary Activity per Week

Method

Logistic Regression

R Workflow

```
# Load packages
library(tidyverse)
library(broom)
library(aplore3)
```

```r
# Recode target variable
nhanes <- nhanes %>%
  mutate(obese = ifelse(obese == 2, 1, 0))  # 1 = Obese, 0 = Not Obese

# Fit logistic regression model
model <- glm(obese ~ vigwrk + modwrk + wlkbik + vigrecexr + modrecexr + sedmin,
             data = nhanes, family = binomial())

# Summarize results
summary(model)
tidy(model, exponentiate = TRUE, conf.int = TRUE)
```

Interpretation

- Odds ratios > 1 suggests increased likelihood of obesity.
- Significant predictors $(p < 0.05)$ will suggest an association between activity and obesity risk.