

For our project, we decided to tackle the issue of training preferences amongst the general population of 44 major cities worldwide. We aimed to see how different situational factors affect the consensus of which training method individuals prefer. The training preferences that we chose to analyze were at-home training, outdoor training, and gym training. These three training methods best represent the diverse preferences individuals may have in their fitness routines. We wanted to see how the number of gym locations, membership prices, available public transportation, and monthly income affect an individual's preferred training method. Our team used multiple sources to collect the appropriate information to measure an individual's training preference. Our primary source of information came from a Kaggle data set that showed us the average gym membership cost in 44 major cities and differentiated the percentage of preferred training methods in each town. This was our reference point, and we compared the primary data against each factor.

We utilized bar graphs and box-and-whisker plots to illustrate the relationship between each factor and training preferences across different cities. An ANOVA test was used to accurately measure the statistical significance of each factor in terms of training preference. We realized that when it came to the number of gym locations and transportation available, the p-value was more significant than .05. We therefore concluded that these factors held no real statistical significance. We could not reject the null hypothesis. When running the ANOVA test for membership cost, we got a p-value of .0287. We were able to reject the null hypothesis, thus leading us to believe that membership cost holds statistical significance and plays a significant role in which kind of training preference an individual may prefer.

While exclusive to these 44 major cities, our data provides valuable insight into most urban areas' training preferences. However, for a more comprehensive analysis, we should recommend expanding the data to include more cities, particularly less urban and more suburban areas. This could provide a deeper understanding of how location influences training preferences and pave the way for further research in this area.