Data Analysis of 2 Houtson airport flight pattern

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**INTRODUCTION**

I am a frequent flyer. In a recent business trip, due to airline factor, my flight was delayed 1.5 hours from planned departure time; Furthermore, due to delay, we run into severe weather condition at destination airport, I had another 2 hours wait in taxiway after landing to get a gate assigned. If I did my research early, I could pick an early flight or a different airline and avoid all the troubles.

**RESEARCH QUESTIONS**

From where I live, I can choose several airports as departure airports. I would like to find out:

1. Which airport has more flights choice to destinations I fly frequently?
2. Which month is the best month with the least delays?
3. Which airline or flight has least chance of delays.
4. Which flights can give me the most mileage points.
5. Based on the above data, Could I find a best route?

**APPROACH**

With an accessible dataset, I will use the R knowledge gained from the DSC520 class and do some analysis. The analysis includes charts, statistical analysis and, if possible, a prediction using proper models.

**How your approach addresses (fully or partially) the problem.**

Based on the data available, the chart will give a visual indication, the statistical analysis will give a mathematical analysis of the findings.

**Data (Minimum of 3 Datasets - but no requirement on number of fields or rows)**

* The hflight dataset as main data
* A sub dataset grouped by delay
* A sub dataset grouped by flight distance.
* A dataset of the weather of the city where the airports are located.

**Required Packages (preliminary)**

* ggplot2
* dplyr
* tidyr
* writexl

**Plots and Tables (preliminary)**

* histogram chart
* scatter chart
* excel table

**Questions for future steps**

* How does this study could expand to any airports/destinations?
* How to add price factor into the consideration

GENDER FACTOR ON COLLEGE ADMISSION

# INTRODUCTION

Westwood high school, which my kids are attending, is the most competitive school in the city. Every year there are quite a few students who get admitted into Ivy school, or, if affordability is a concern, the top public university. In 2022, all top 10 have been admitted into top 50 ranked US universities, including MIT and Harvard. Among these 10 students, Male to Female ratio is 6:3. On the other hand, among the Asian community, there is also a common impression that, due to gender balance/diversity concern, at similar academic level and background, female is more likely get admitted in than male students. From the neighborhood I lived in, I had heard 5 girls living close by got admission to top universities in 2022, but hardly heard any news related to boys. So, I am interested in exploring more on this topic.

## Questions to ask before research

To answer the question: “is male more difficult than woman to get admitted into top universities?” to narrow down the research. Here are a few questions I am trying to find answers:

* + Is there any search trend in male/female admission?
  + Is there any search trend in gender-based admission discrimination?
  + What is the male to female ratio in Westwood high school?
  + What is the male/female undergraduate enrollment ratio in Harvard?
  + What is the national gender-based admission rate?
  + Where is the data resource I can use?

## Preliminary findings:

There are many more searches on fair admission than admission based on gender. This could be an indication that this may not be a common concern. At the same time, Harvard did admit more female student than male student in class 2026. Another interesting finding is that much more female student continue pursue the college degree than male. So, the female dominating of admission may not be due to discrimination, but due to some other factors, like more male decide not to continue college education, but to start working after high school graduation,

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–statistica <https://www.statista.com/statistics/478663/immediate-enrollment-in-college-of-high-school-completers-in-the-us-by-gender/>

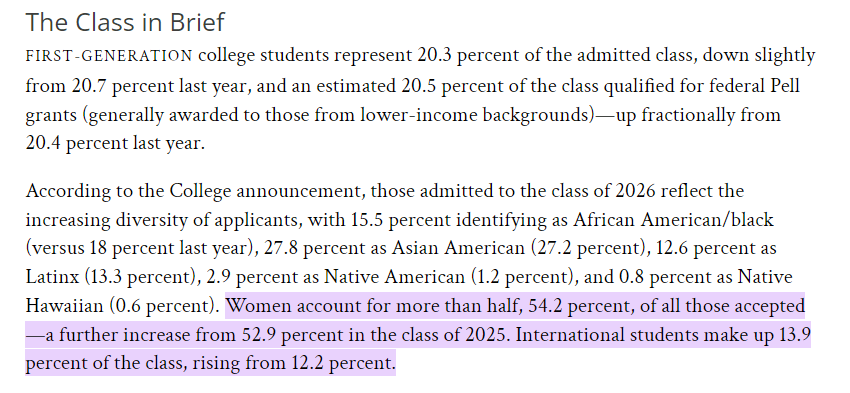


Figure 1. Harvard class 2026 admission diversity

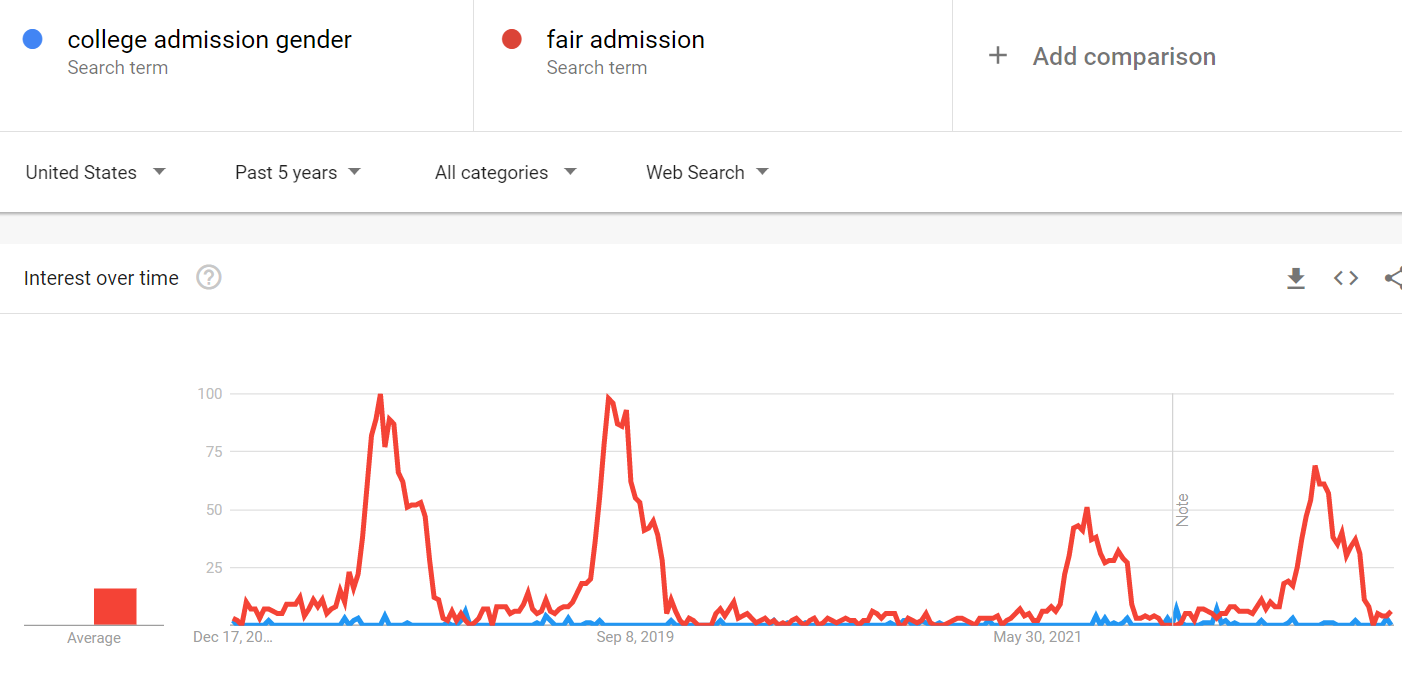


Figure 2. Google trend comparison between fair admission vs gender-based college admission

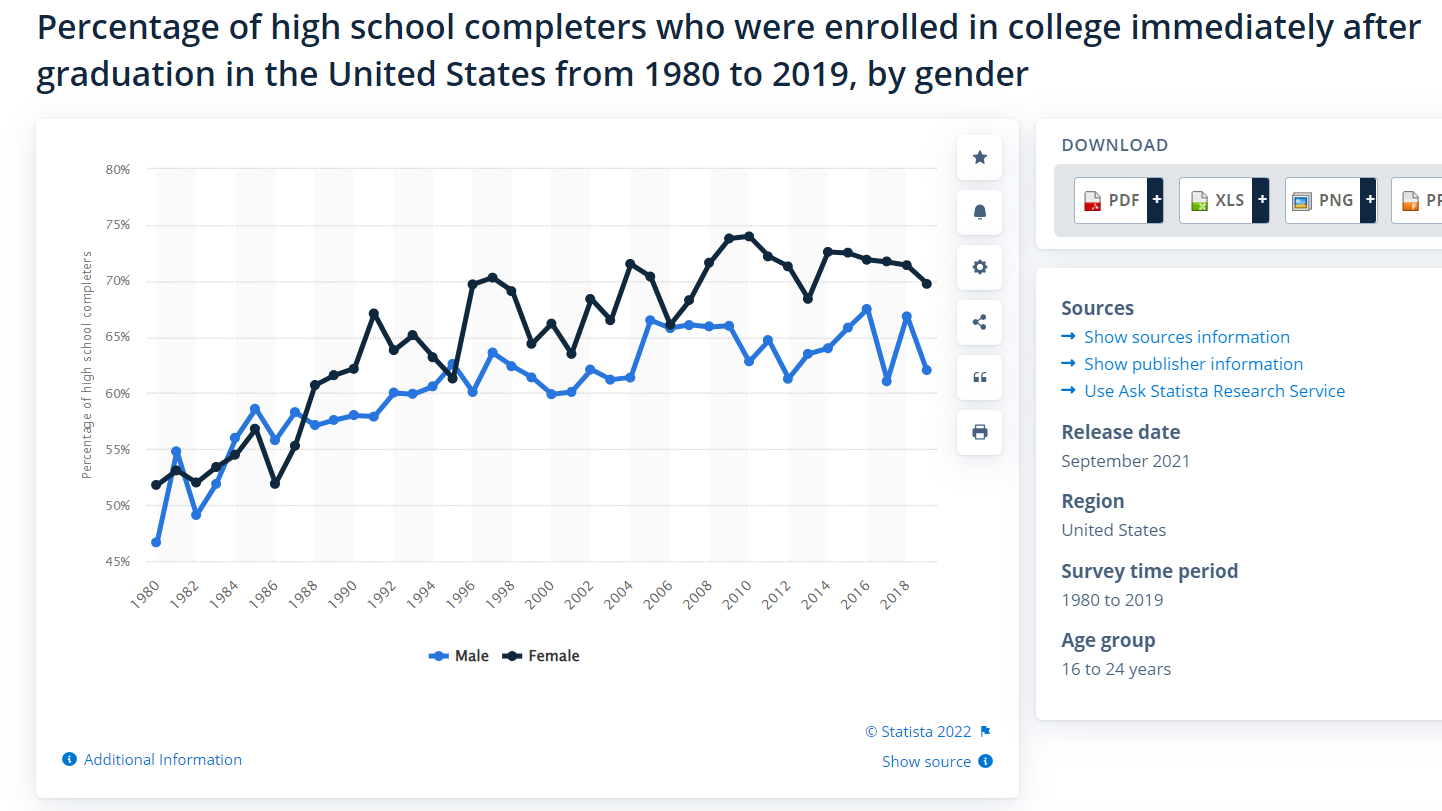


Figure 3. trend of high schooler who enrolled in college right after graduation, by gender