

NETFLIX ANALYSIS: A STATISTICAL VIEW ON MOVIES AND SHOWS

Group 23: Daniel Schipfer • Monika Windhager • Kaniz Fatema • Abdelrahman Ali

TU Graz University - Austria

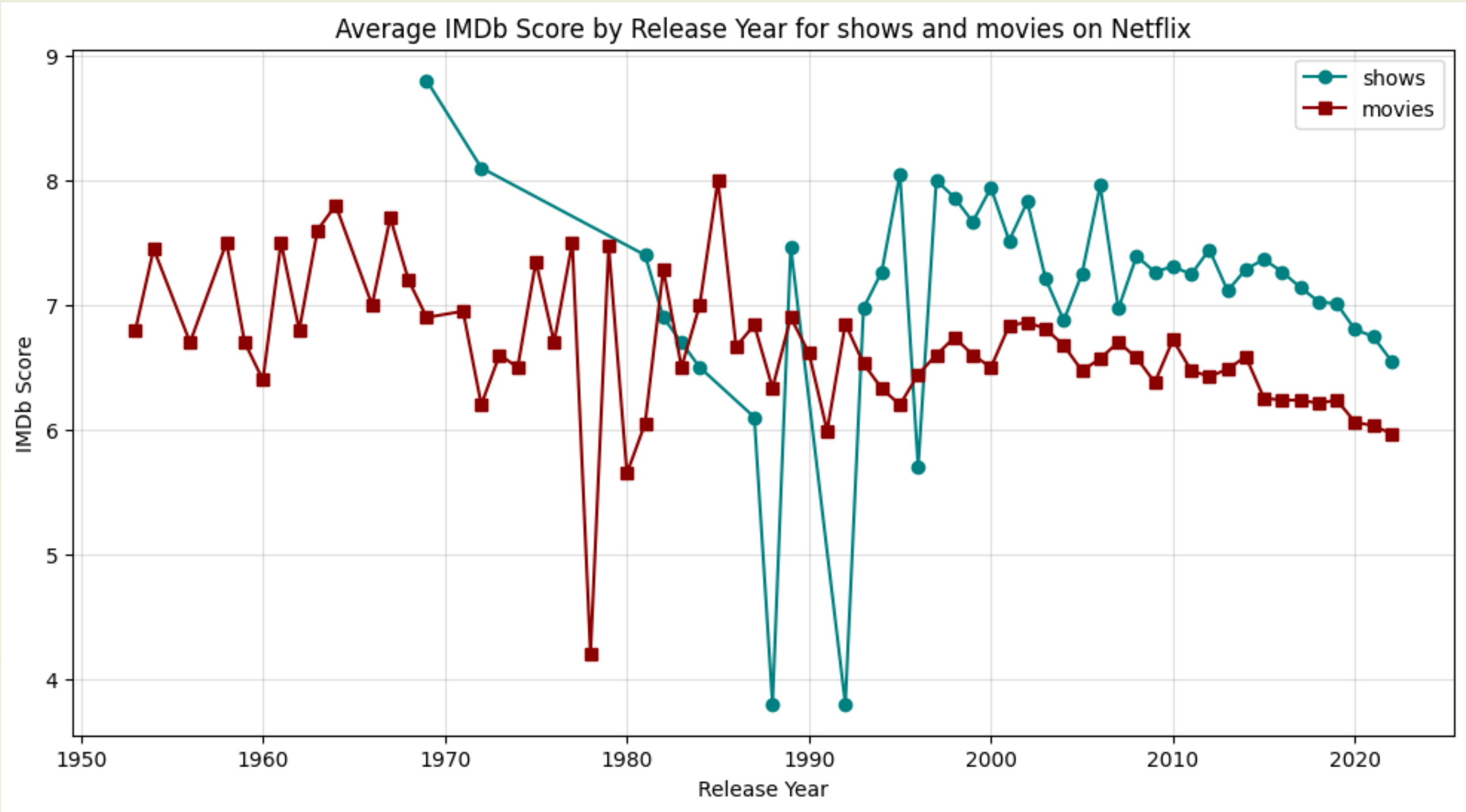
Research Questions

- 1. Do Movies (a) or Shows (b) on Netflix with an **older release year** have better average IMDb ratings?
- 2. Do Movies (a) or Shows (b)* on Netflix with a more positive **description** get better IMDb ratings?
- 3. Do Movies or Shows on Netflix get better IMDb ratings (a) or more IMDb votes (b)* and do they differ in runtime (c)*?
- 4. Did the **runtime** of Movies (a) or Shows (b) that are on Netflix change **over the years**?

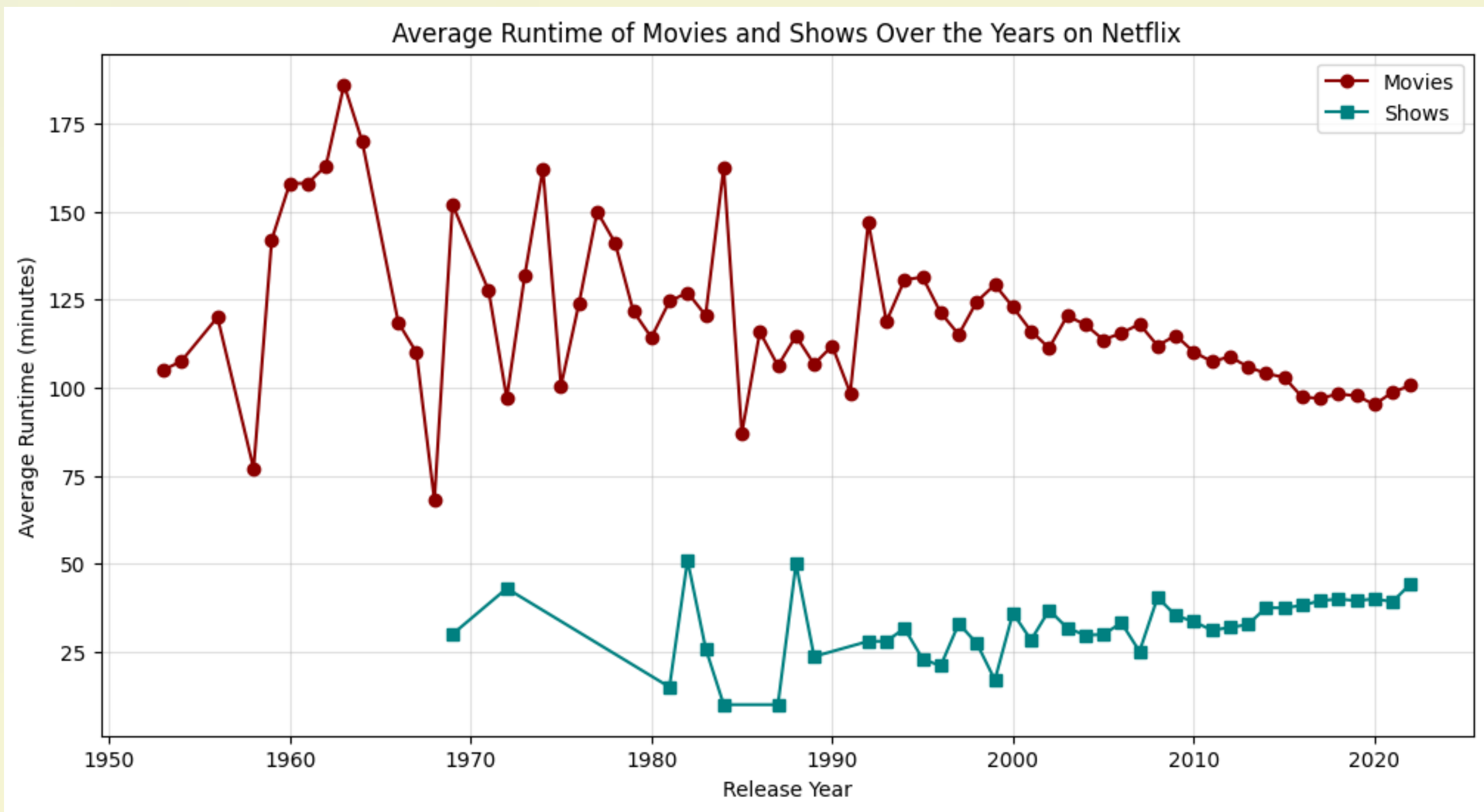
* you can find the answers to these and more research questions on [GitHub](#)

Data and Methods

- The **dataset** used contains information about Netflix’s content as “Titles”, “Types”, “Release Year”, “Runtime”, “Votes”, and “Scores”.
- Methods:**
 - 1. Pearson Correlation
 - 2. PERMANOVA and Permutation Test
 - 3. Sentiment Analysis using a BART model

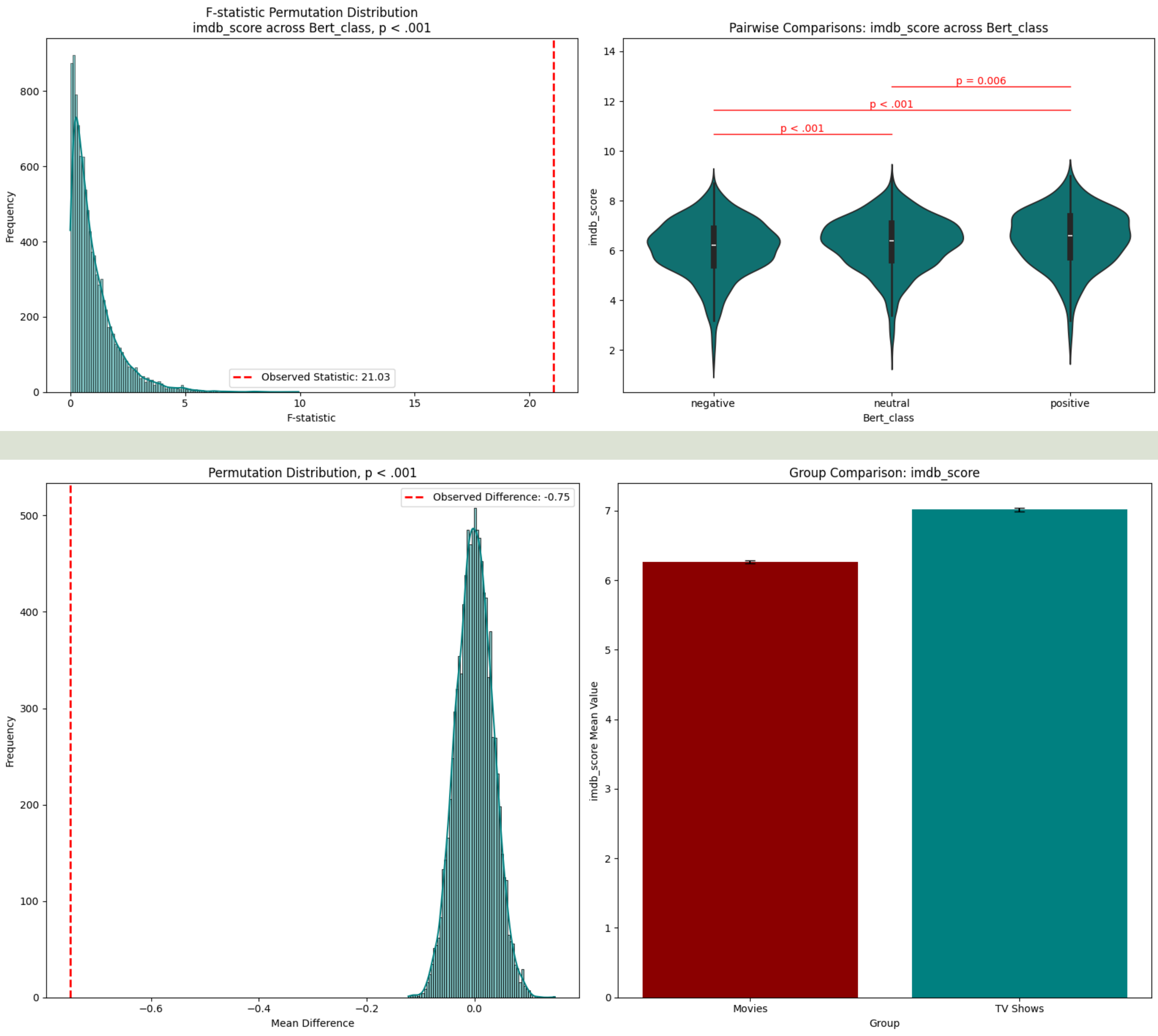


Movies: $r = -0.43$, $p < 0.001$. Starting from year 2000: $r = -0.87$, $p < 0.001$
Shows: $r = 0.01$, $p = 0.956$. Starting from year 2000: $r = -0.68$, $p < 0.001$



Movies: $r = -0.41$, $p < 0.001$. Starting from year 2000: $r = -0.93$, $p < 0.001$
Shows: $r = 0.37$, $p = 0.019$. Starting from year 2000: $r = 0.68$, $p < 0.001$

Results



Conclusion

- The IMDb score for movies and shows on Netflix is decreasing over the years – either movies or shows get worse or “hindsight bias”.
- The runtime for movies is decreasing while the runtime for shows is increasing on Netflix.
- More positive movies on Netflix achieve a slightly higher IMDb rating as neutral and negative movies (based on the sentiment of the movies description).
- Shows achieve a higher IMDb score compared to movies on Netflix.

