

Video Game Popularity and Player Engagement

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Research Questions

How does video game popularity vary across genres and gaming platforms?

1. How do player ratings vary across video game genres and gaming platforms?

2. How do the number of players vary across video game genres and gaming platforms?

Data

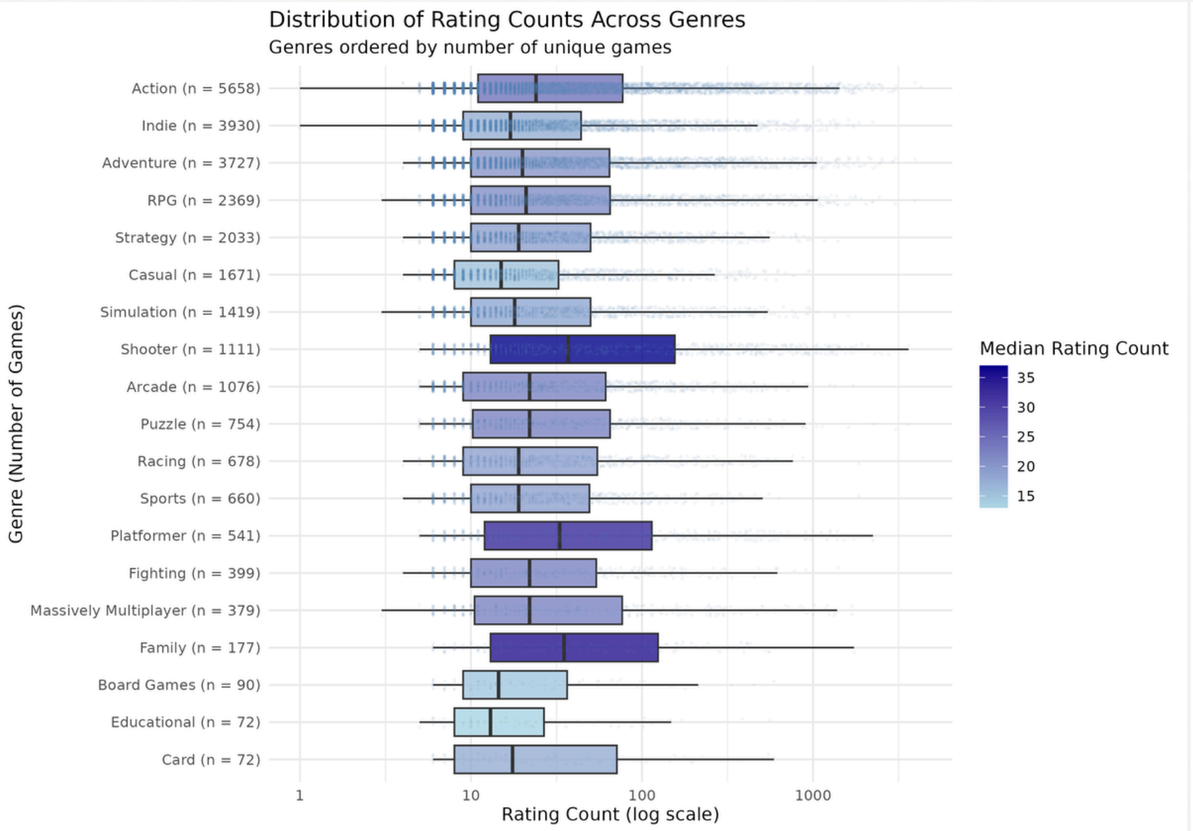
- Source: Hoang (2020), Video Game Dataset, Kaggle. Data were compiled from RAWG.
- 474,417 observations, 27 variables
- Each row represents one video game in the RAWG database.
- The dataset includes information about game ratings, genres, platforms, and player status.

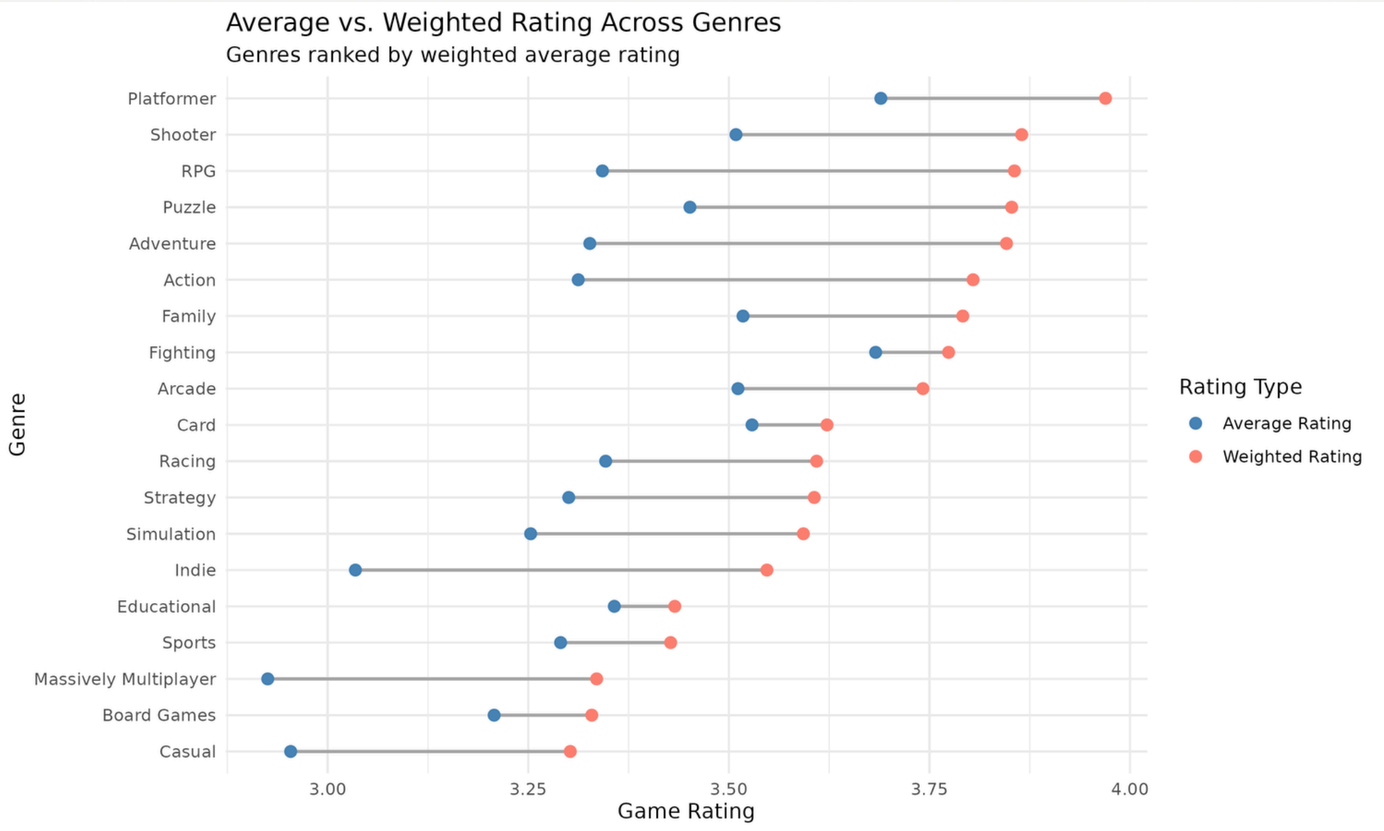
https://www.kaggle.com/datasets/jummyegg/rawg-game-dataset



Genre & Ratings

Rating Activity and Weighted Ratings Do Not Always Align.





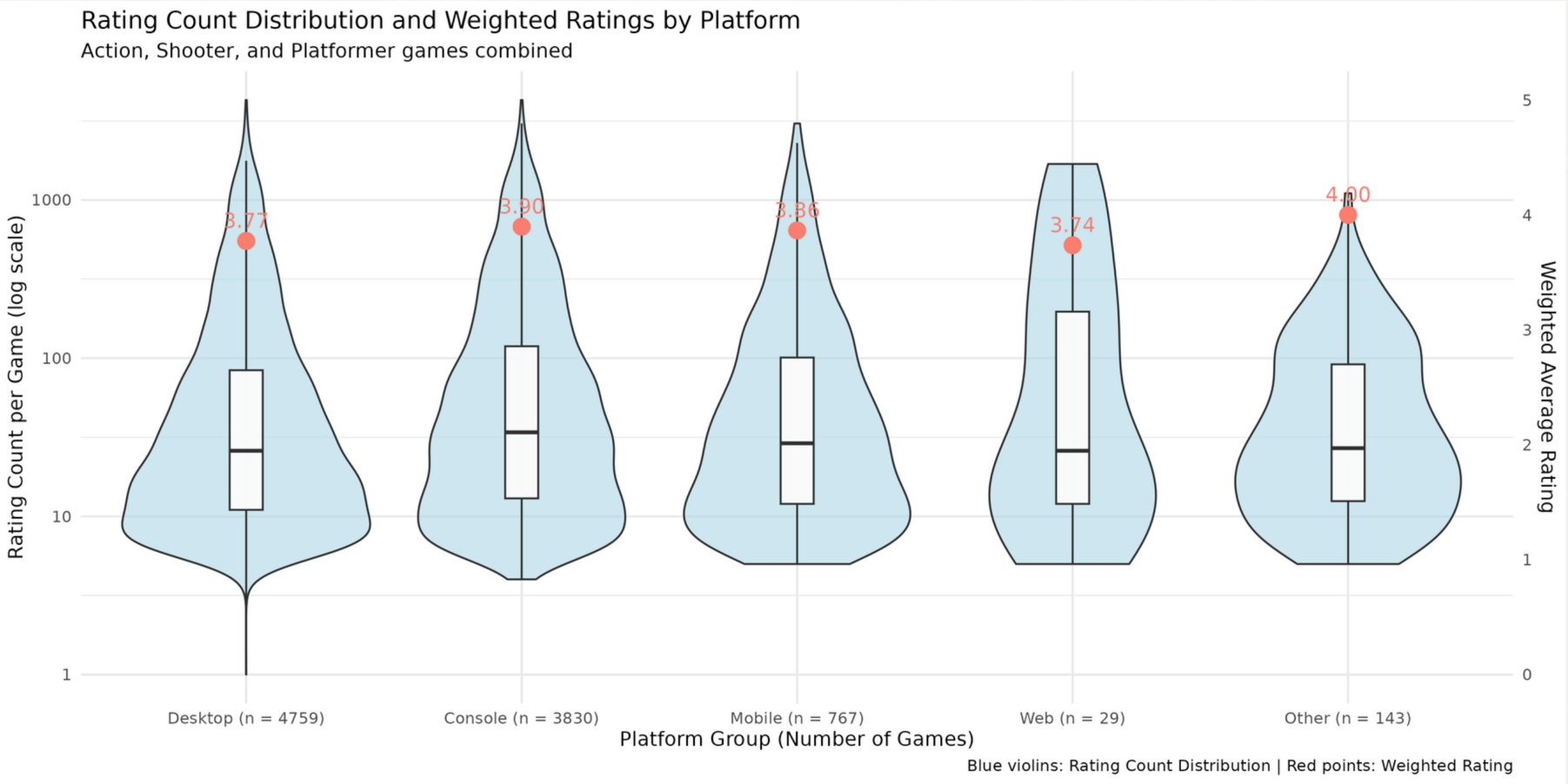
- Large within-genre rate-countvariation
- Uneven game counts
- Uneven rating activity

$$R_g^{(w)} = \frac{\sum_{i \in G_g} r_i n_i}{\sum_{i \in G_g} n_i}$$

- Weighted > Unweighted across all genres
- Higher rating activity associated with higher ratings

Platform & Ratings

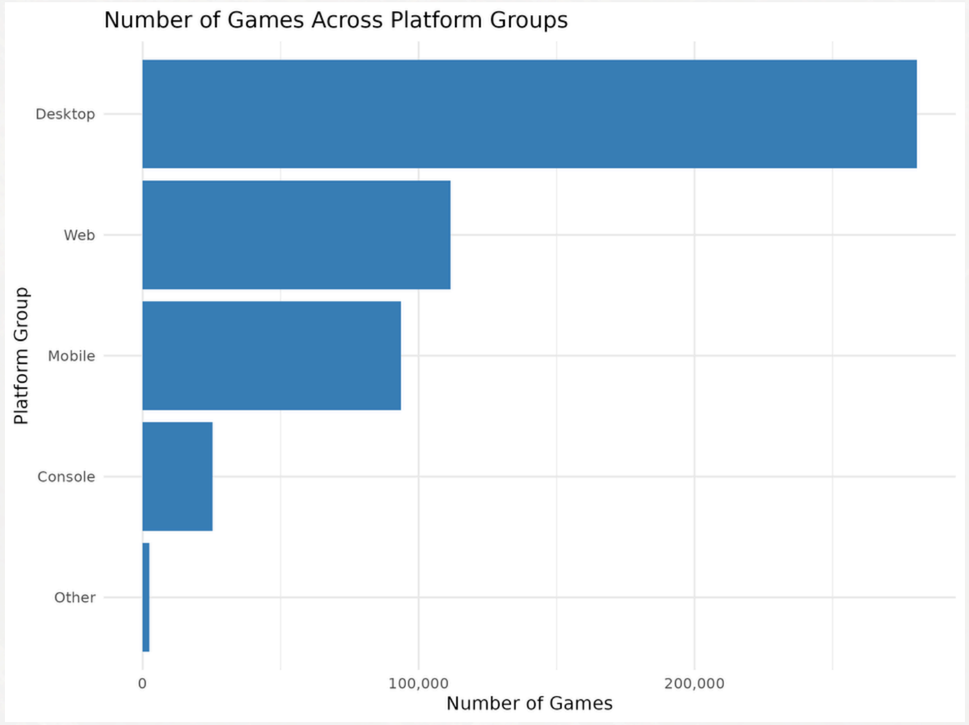
	Desktop	Console	Mobile	Web	Other
Included Platforms	PC, macOS, Linux	PlayStation series, PSP, PS Vita, Xbox series, Nintendo series, Wii, Game Boy, Sega series, Atari series, Neo Geo, 3DO	iOS, Android	Web	Commodore / Amiga, Atari ST, Atari 8-bit, Classic Macintosh, Apple II, unmatched platforms

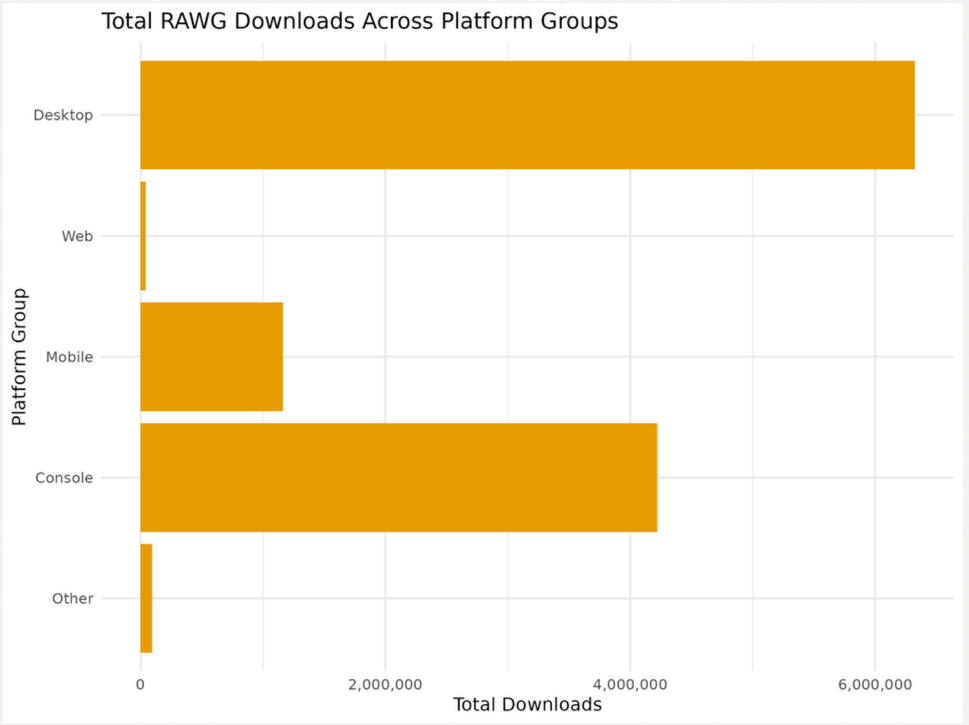


- Similar right-Skewed Distributions
- Similar weighted average rating

Platforms & Player Counts

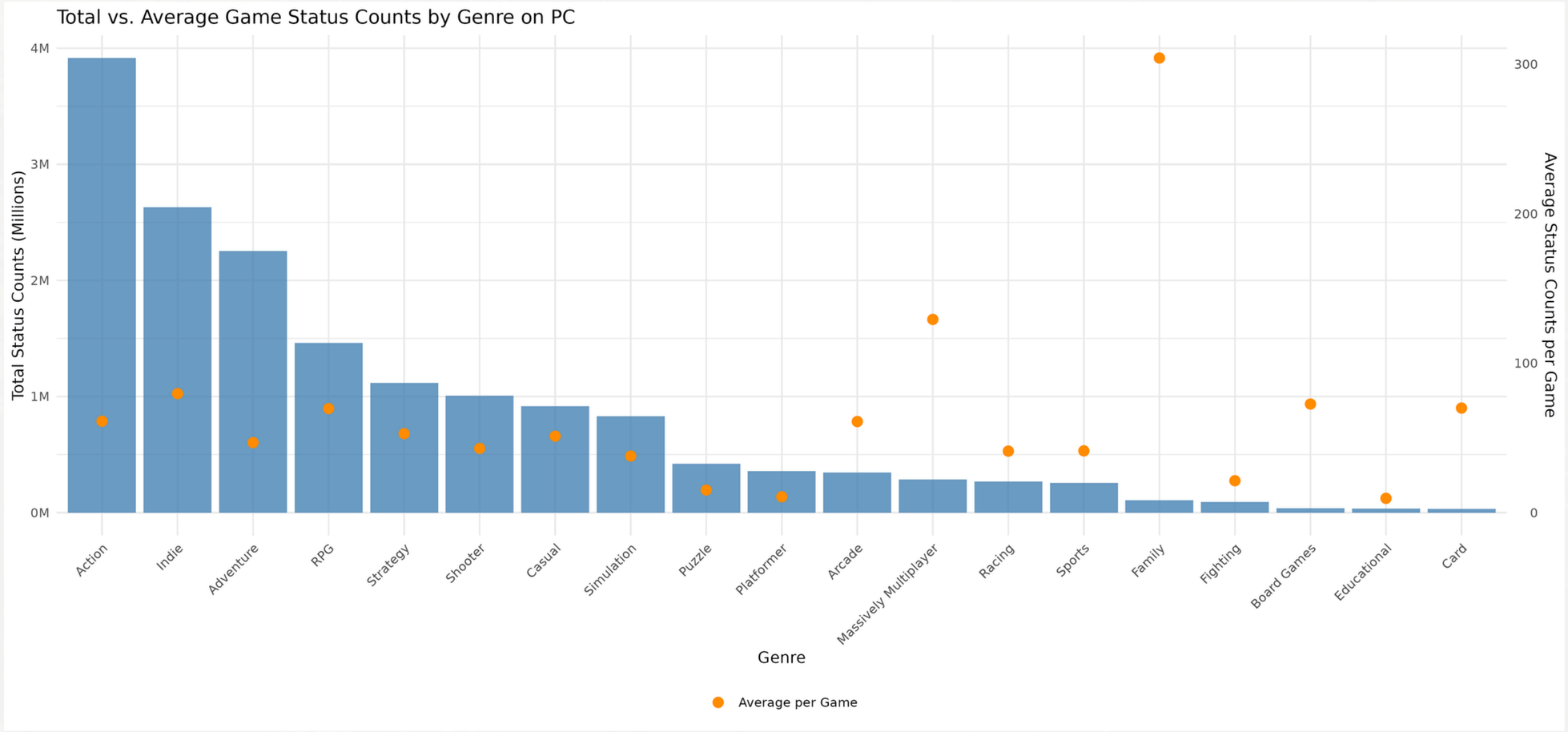
- `added_status_yet` : Number of RAWG users had the game as "Not played"
- `added_status_owned` : Number of RAWG users had the game as "Owned"
- `added_status_beaten` : Number of RAWG users had the game as "Completed"
- `added_status_toplay` : Number of RAWG users had the game as "To play"
- `added_status_dropped` : Number of RAWG users had the game as "Played but not beaten"
- `added_status_playing` : Number of RAWG users had the game as "Playing"





- Large Game Catalog ≠ More Players
- Desktop had the largest game catalog and the highest total number of players.
- Console had many video game players despite small game catalog. Web showed the opposite pattern.

Genre & Player Counts



- Total engagement: Action, Indie, and Adventure have the highest total game-status counts.
- Average engagement: Family and Massively Multiplayer lead in average status counts per game.
- Takeaway: High overall popularity does not necessarily mean high average engagement per game.

Bias & Conclusion

Conclusion

Video game popularity is associated with both genre and platform, with more pronounced differences across genres in this analysis.

Bias

- Outdated Data: The dataset includes information only up to 2020
- Source Bias: Ratings and engagement data reflect RAWG users
- Unclear Status Definitions: Engagement categories lack precise definitions.

