

Steam Game Price and Genre Analysis

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1 What we're exploring

We're analyzing Steam game data to understand how price, genre, tags, and player engagement relate to each other. We have multiple publicly available datasets that we'll join together to get a complete picture of the Steam game market (SteamSpy; Valve Corporation).

1.1 Load and Join Datasets

We have several datasets:

- **games.csv**: Basic game info with names, release dates, and prices
- **genres.csv**: Game genres (one game can have multiple genres)
- **tags.csv**: User-defined tags for games
- **categories.csv**: Game categories (multiplayer, single-player, etc.)
- **steamspy_insights.csv**: Player statistics and additional info

Games dataset: 140082 rows

Genres dataset: 353339 rows

Tags dataset: 1744632 rows

Steamspy dataset: 140077 rows

1.2 Clean and Join the Data

Number of actual games: 46530

Games with genre info: 41514

Final dataset with all info: 11256 games

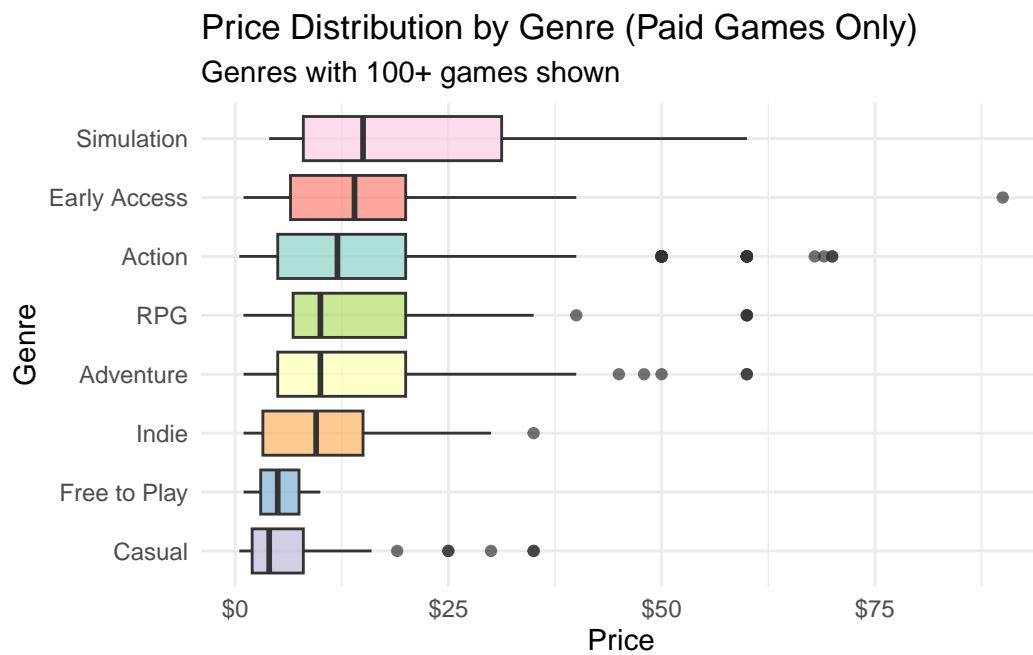
1.3 Summary of Our Joined Data

Genre	Number of Games	Avg Price	Median Price
Action	5020	1.22	0.00
Adventure	2031	0.68	0.00
Casual	1632	0.43	0.00
Indie	727	0.73	0.00
Free to Play	646	0.02	0.00
Early Access	296	1.50	0.00
Simulation	203	2.97	0.00
RPG	111	4.32	0.00
Strategy	99	4.38	0.00

Genre	Number of Games	Avg Price	Median Price
Animation & Modeling	98	0.04	0.00
Utilities	80	0.00	0.00
Education	67	0.00	0.00
Audio Production	40	0.00	0.00
Racing	39	1.69	0.00
Design & Illustration	30	0.33	0.00
Sports	19	0.37	0.00
Video Production	17	0.00	0.00
Massively Multiplayer	16	0.06	0.00
Accounting	11	0.00	0.00
Game Development	9	0.00	0.00
Software Training	9	0.00	0.00
Acción	7	23.56	19.99
	6	30.49	23.99
Gore	5	0.00	0.00
	5	19.79	19.99
Photo Editing	4	0.00	0.00
	4	22.49	19.99
	4	9.57	7.29
	4	8.24	7.99
	2	12.99	12.99
	2	17.49	17.49
Abenteuer	1	0.00	0.00
Acceso anticipado	1	0.00	0.00
Akční	1	0.00	0.00
Free-to-play	1	0.00	0.00
Rol	1	11.99	11.99
Simuladores	1	24.99	24.99
Web Publishing	1	0.00	0.00
	1	19.99	19.99
	1	0.00	0.00
	1	0.00	0.00
	1	24.99	24.99
	1	14.99	14.99
	1	10.99	10.99

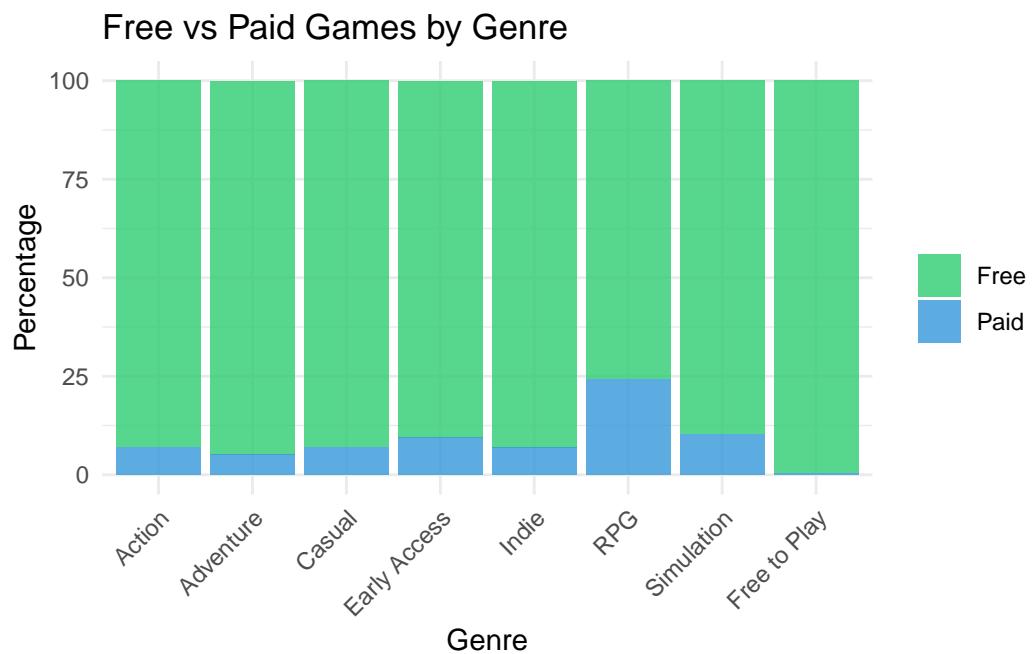
2 Visualizations and Analysis

2.1 Price Distribution by Genre



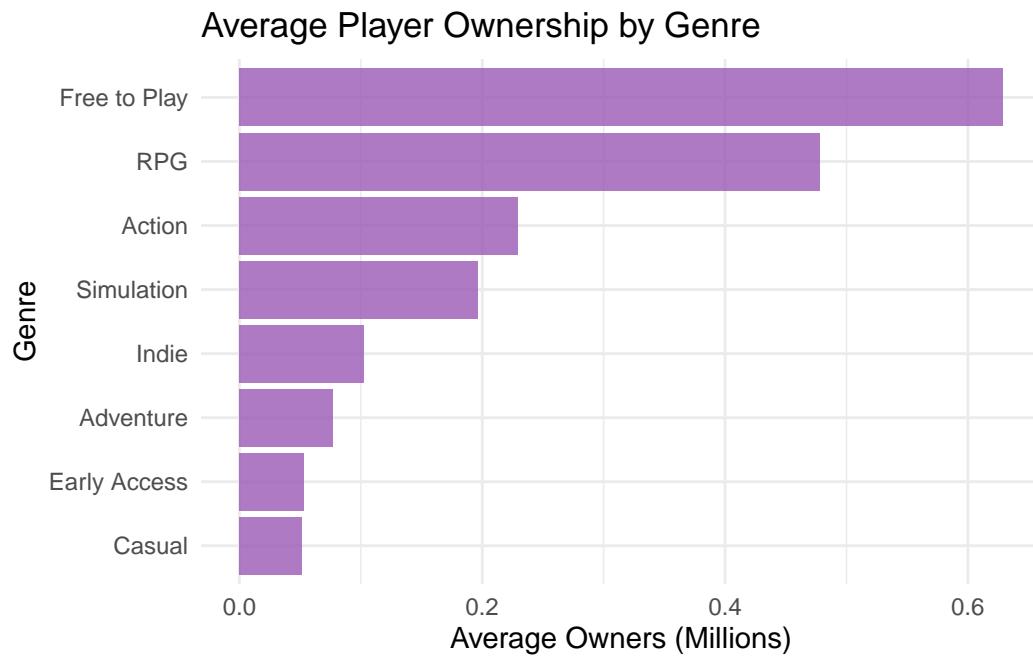
RPG and Simulation games tend to be the most expensive, while Casual and Indie games are typically cheaper. This makes sense because bigger RPG games usually have more content and take longer to make.

2.2 Free vs Paid Games by Genre



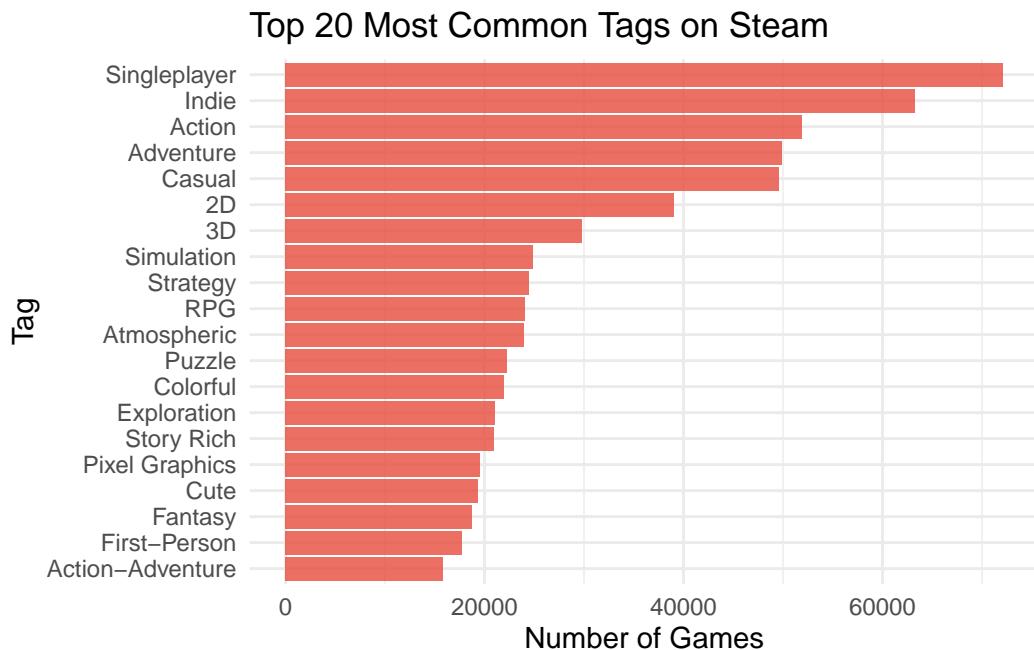
Action and Casual genres have the highest proportion of free games. Simulation and RPG games are almost always paid.

2.3 Player Ownership Analysis



Action and Free to Play games have the highest average ownership. This makes sense since free games have no barrier to entry.

2.4 Popular Tags Analysis



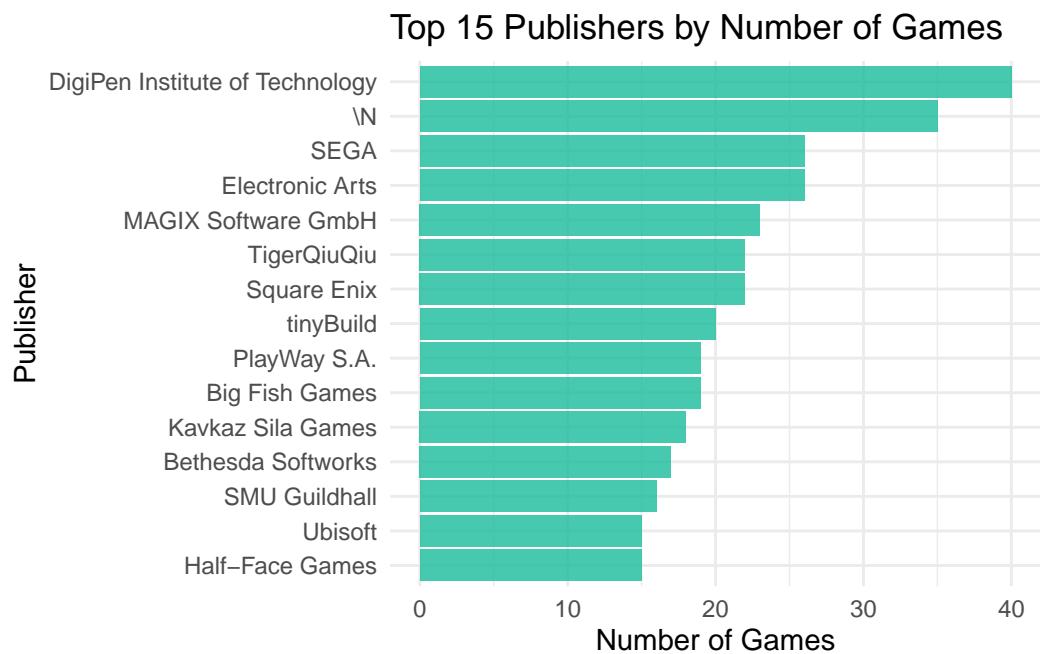
Indie and Singleplayer are the most common tags. This shows that most Steam games are independent productions designed for solo play.

2.5 Price vs Player Count Relationship

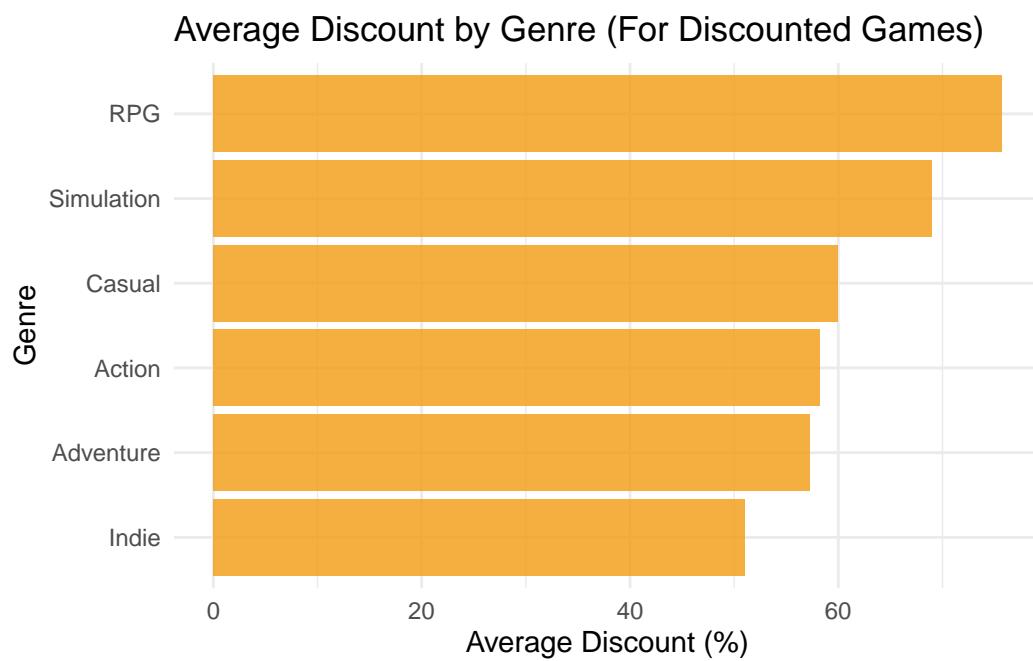


There's a slight negative relationship between price and ownership for most genres. Cheaper games tend to have more players, which makes sense.

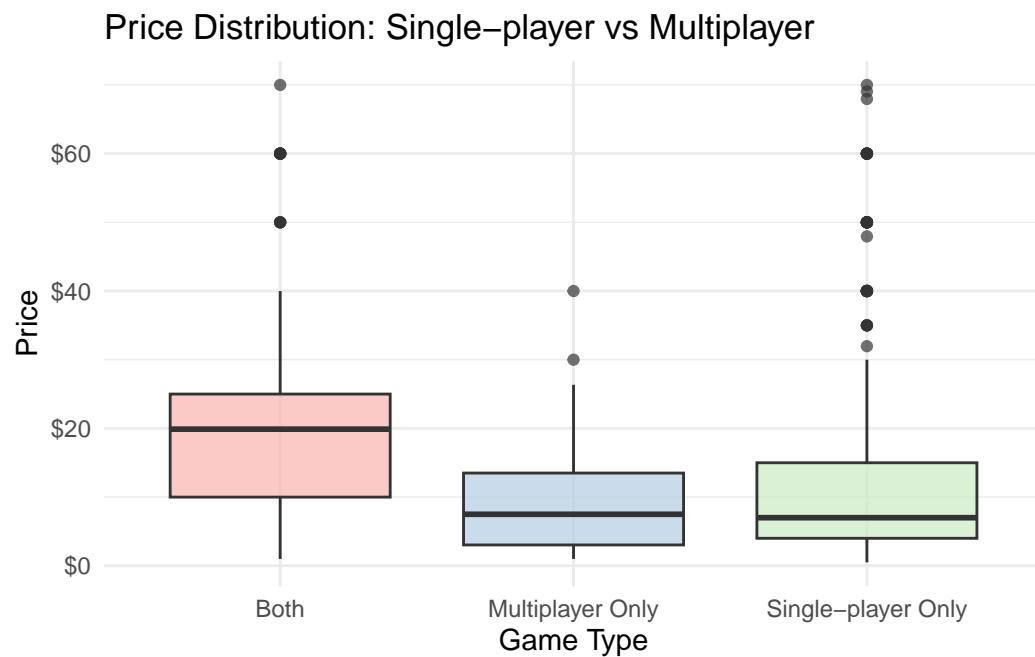
2.6 Top Publishers by Game Count



2.7 Discount Analysis

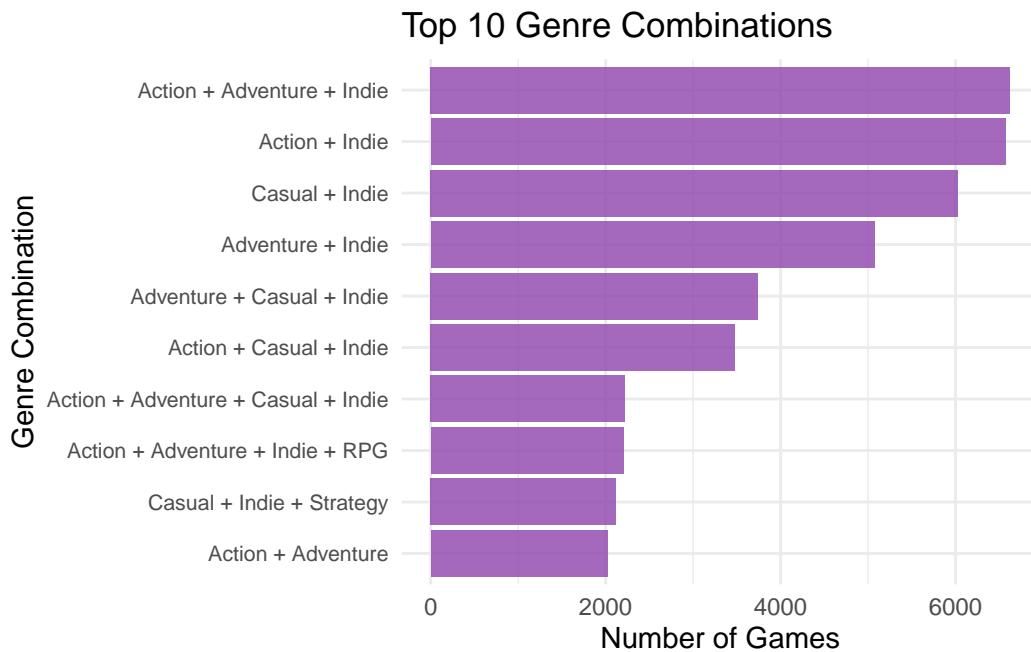


2.8 Multiplayer vs Single-Player Price Comparison



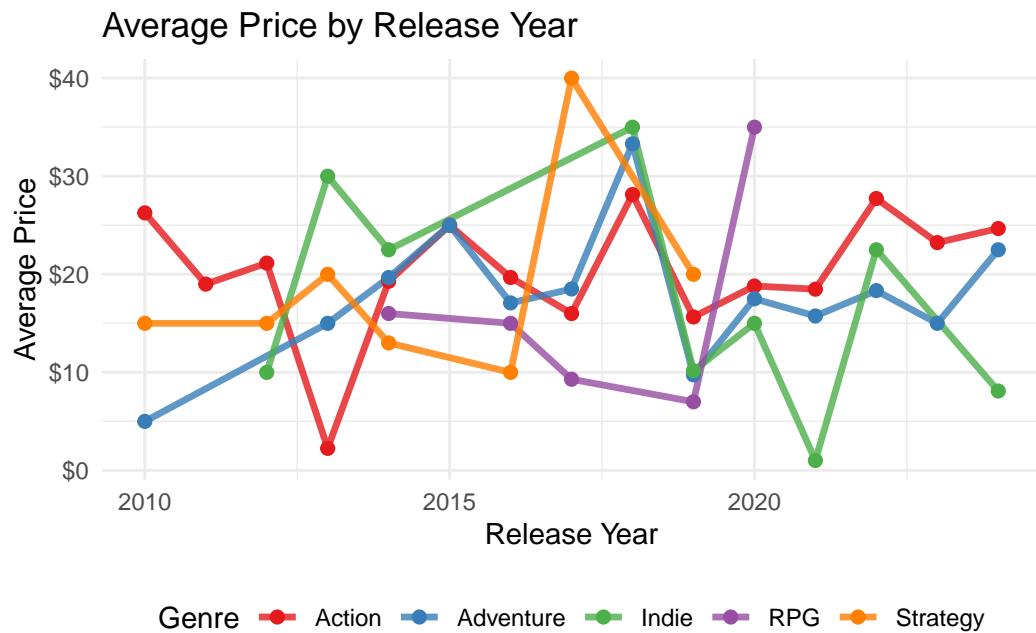
Games that offer both single-player and multiplayer tend to be priced higher, probably because they offer more content and features.

2.9 Genre Combinations



Action + Adventure and Action + Indie are the most common genre combinations.

2.10 Price Trends by Release Year



Interesting trends: RPG games have gotten more expensive over time, while Indie games have remained consistently cheap. Action games show some price volatility.

3 FAIR and CARE Principles

This project follows the FAIR and CARE principles to ensure the data analysis is transparent, reproducible, and ethical.

FAIR Principles :

The data used in this project is organized in a clear folder structure with descriptive file names, making it easy to locate and understand. All datasets are stored in open CSV formats that can be accessed using free and widely available software. A shared identifier (app_id) is used across datasets, allowing them to be joined consistently. All data cleaning and analysis steps are documented in this report so the results can be reproduced.

CARE Principles :

This analysis is conducted for educational purposes and focuses on overall trends in the Steam marketplace rather than individual developers or players. All datasets used are publicly available, and no private or personally identifiable information is included (SteamSpy). The data

is handled responsibly through the use of aggregated summaries and visualizations. Potential biases and limitations in the data are acknowledged to avoid misleading or unfair conclusions.

4 Key Insights

Based on our analysis of real Steam data:

Price patterns:

- RPG and Simulation games are the most expensive genres, with median prices around \$15-20
- Indie and Casual games are the cheapest, usually under \$10
- Games that offer both single-player and multiplayer tend to cost more

Player ownership:

- Free to Play and Action games have the highest average ownership
- There's a negative relationship between price and ownership. cheaper games get more players
- This is especially true for Action and Indie genres

Market composition:

- Indie is the most common tag on Steam, showing the platform is dominated by independent developers
- Action + Adventure and Action + Indie are the most common genre combinations
- Big publishers like SEGA and Ubisoft have large catalogs, but the market is very fragmented

Trends over time:

- RPG games have gotten more expensive in recent years
- Indie game prices have stayed stable and low
- The Steam market has grown significantly, with more games releasing each year

References

SteamSpy. *SteamSpy Steam Games Dataset*. 2024, <https://steamspy.com>.
Valve Corporation. *Steam Store*. 2024, <https://store.steampowered.com>.