# Introduction and Collection

The purpose of the study is to find out if there is a correlation between critic scores and video game sales.   The data set is a collection of video games that have sold more than 100,000 copies of the game.  The population is all video games up till December 2016.  The sample is all video games with more than 100,00 sales before December 2016. It was collected from reported sales of copies from video game retailers.  The scores came from Metacritic.  Workers at Metacritic go through several well respected critics reviews and assign a number out of one hundred to a game.  From there, a number is produced from a weighted average of scores.

# Bias and Weaknesses

I would like to note that there are several biases that could affect the data.  Many of the older games were not rated because of no rating system existing at the time creating a no response bias.  The game Wii Sports had to be excluded from the graphs because its global sales doubled that of the next closest game and made the graph hard to read.

## Coefficients

| Term | Coef | SE Coef | T-Value | P-Value | VIF |
|---|---|---|---|---|---|
| Constant | -1.5026 | 0.0846 | -17.77 | 0.000 | |
| Critic_Score | 0.03163 | 0.00120 | 26.32 | 0.000 | 1.00 |

# Results

## Analysis of Variance

| Source | DF | Adj SS | Adj MS | F-Value | P-Value |
|---|---|---|---|---|---|
| Regression | 1 | 1581 | 1581.43 | 692.62 | 0.000 |
| Critic_Score | 1 | 1581 | 1581.43 | 692.62 | 0.000 |
| Error | 8134 | 18572 | 2.28 | | |
| Lack-of-Fit | 80 | 2140 | 26.75 | 13.11 | 0.000 |
| Pure Error | 8054 | 16432 | 2.04 | | |
| Total | 8135 | 20153 | | | |

## Regression Equation

Global_Sales = -1.5026 + 0.03163 Critic_Score

## Model Summary

| S | R-sq | R-sq(adj) | R-sq(pred) |
|---|---|---|---|
| 1.51104 | 7.85% | 7.84% | 7.79% |

# Conclusion

The coefficient of determination(R-Sq) was equal to 7.85% and R was equal to 0.2802. To conclude, this indicates no to very little positive linear correlation to critic scores and video games.

# Infographic

https://create.piktochart.com/teams/26114971/infographic/saved/56824523

# Sources

https://www.kaggle.com/coffeepot/videogame-sales
https://www.metacritic.com/about-metascores