Do critics, films fans and other viewers like the same movies?

Many people suppose that critics and the public have very different tastes in movies. However, analysis of online ratings shows that film fans – those keen enough to vote on websites – have largely similar tastes to critics. Nevertheless, tastes of critics and film fans do appear to be quite different from those of a wider audience.

To measure movie viewers' tastes, we have looked at online ratings for movies, and results from market research, with an initial look at box office performance.

Comparing the ratings from critics and film fans

We have first looked at the tastes of critics and "film fans", defined as those who are engaged enough to fill in ratings on specialist film websites. We have assembled and analysed six series of ratings. Two are from critics, four are from film fans. The six data series used are IMDb, Letterboxd, Rotten Tomatoes critics and public, and Metacritic critics and public.

The dataset contains just over 9000 films (n = 9063), including feature length dramas. Each of these films has ratings from all six data series, giving a total of approximately 54,000 data points.

Table 1 shows the correlations (r^2 values) between ratings from each source, based on standard linear regression. The scores are well correlated, so a film which gets high ratings from one source (for example IMDb) tends to get high ratings from other sources (for example Rotten Tomatoes critics). The correlation between the two data series representing critics is 87%. Correlations between ratings from film fans average 74%. Correlations between public and the critics are lower, averaging 65%, but still strong[i].

There is thus a consistent tendency towards broad agreement among film fans and critics about whether a particular film is good or not.

Table 1: Correlations (r^2) between ratings for each movie from different sources

	IMDb	Letterboxd	RT public	Meta public	RT critic	Meta critic
IMDb	100%	87%	80%	74%	68%	69%
Letterboxd	87%	100%	72%	72%	75%	76%
RT public	80%	72%	100%	61%	64%	58%
Meta publlc	74%	72%	61%	100%	55%	55%
RT Critic	68%	75%	64%	55%	100%	89%
Meta Critic	69%	76%	58%	55%	89%	100%

These findings are supported by examining what accounts variations in ratings, using Principal Component Analysis[ii]. The results of are shown in Table 2. They indicate that the First Principal Component (PC1) dominates the results, accounting for about 75% of

variation. All six series contribute almost equally, as coefficients have the same signs and similar magnitudes. We interpret this First Principal Component as a measure of quality.

Nevertheless, there are smaller but systematic differences in the ratings from film fans and critics, indicating differences in tastes. Looking at the Second Principal Component (PC2), the critics' ratings have the same sign and similar magnitude, and are quite distinct from the four film fans' series. This accounts for a further 11% of the variation. We interpret this Second Principal Component as critics' preferences. This is consistent with the somewhat lower correlation between critics' and film fans' ratings shown in Table 1. The remaining principal components are less significant, and have no clear interpretation.

Table 2: Results of Principal Component Analysis

	PC1	PC2	PC3	PC4	PC5	PC6
Variance	**75%**	**11%**	**7%**	**4%**	**2%**	**2%**
Coefficients						
IMDb	-43%	-28%	-13%	-43%	-60%	42%
Letterboxd	-44%	-6%	7%	-61%	62%	-22%
RT public	-39%	-29%	-72%	42%	10%	-25%
Meta publlc	-37%	-49%	66%	42%	2%	-4%
RT Critic	-41%	53%	0%	29%	28%	62%
Meta Critic	-40%	56%	15%	3%	-42%	-57%

All of these tendencies are naturally subject to enormous variation for individual films, leading to outliers. For example, Where the Crawdads Sing (2022) has a rating of 96% from Rotten Tomatoes' viewers, but 34% from critics. Similarly, ratings are averages, with widely different scores from different viewers. For example, most agree that The Lord of the Rings films (2001-2004), with an IMDb rating of 8.8-8.9, are excellent, and that Artemis Fowl (2020), with an IMDb rating of 4.3, is not. However, there is a small minority of ratings from people who don't like The Lord of the Rings, and a few who award Artemis Fowl higher ratings, with around 10% of voters giving it a rating on IMDb of 8 or more.

What about the wider audience?

To identify whether these patterns extend to the wider audience we have looked at ratings from CinemaScore. These are based on market research, looking beyond film fans to a representative sample of viewers. The dataset is smaller, with around 3000 films, consisting mainly of mainstream American releases since the mid 1980s.

The correlations are shown in Table 3[iii]. The correlations between CinemaScore and the other data series are lower, in the range 35% to 55%. This implies that the opinions of a wider set of movie goers are less similar to those of film fans and critics.

Table 3: Correlations (r^2) including CinemaScore market research

	IMDb	Letterboxd	RT public	Meta public	RT critic	Meta critic	Cinemascore
IMDb	100%	88%	79%	81%	77%	74%	45%
Letterboxd	88%	100%	73%	82%	77%	75%	37%
RT public	79%	73%	100%	65%	70%	62%	55%
Meta publlc	81%	82%	65%	100%	68%	65%	35%
RT Critic	77%	77%	70%	68%	100%	91%	39%
Meta Critic	74%	75%	62%	65%	91%	100%	36%
Cinemascore	45%	37%	55%	35%	39%	36%	100%

The relationship between ratings from critics and film fans to financial indicators such as box-office receipts, which depend on general appeal to viewers, is complex. However, there appears to be at best a weak relationship[iv]. This will be the subject of a separate article.

The expectation that the public and critics diverge widely in their evaluation of a particular film is thus supported by the analysis. However, it is not the whole story. There is some correspondence between the results of market research and how highly film fans rate a movie. And the tastes of film fans are quite close to those of critics, although significant differences remain.

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[i] These values for r^2 are broadly in line with work by others. However, the analysis presented here differs, for example, in the sample of films, the data series included, and questions addressed.

[ii] Principal Component Analysis is a well-established technique used to simplify complex datasets by transforming a large set of variables into a smaller one that still contains much of the original information. It achieves this by identifying new, uncorrelated axes (principal components) that capture the maximum amount of variance in the data.

[iii] The correlations between the other six data series are somewhat different from those in Table 1, as the sample of films is different.

[iv] See for example here or here.