

The True Test of Representation in Cinema:

Using Alternative Testing Frameworks to Determine Feminist Movies

Natalie Ho, Nicole Sobski, and Nerine Uyanik ($O(N^3)$)

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Introduction

What makes a movie feminist?

In the critically-acclaimed Hollywood film *La La Land*, an ambitious, dream-oriented actress Mia falls for a jazz-loving pianist Sebastian. Both wish to pursue their passions in different ways, and when these pursuits are incompatible, Mia breaks things off with Sebastian to follow her dream of making it big in the movie industry. Throughout the film, Mia demonstrates the arc of a powerful and independent woman, unwilling to compromise her goals for the sake of a relationship. But is this enough to deem it a feminist movie?

In our final project, we examine 50 Hollywood movies using different evaluation frameworks inspired by the Bechdel-Wallace test. The Bechdel test determines if a movie satisfies two main criteria: (1) there are at least two named female characters and (2) these characters have at least one conversation that is not about a man. While a good starting point, this test falls short in addressing other aspects of inequality inherent in plot development, actor/actress gender ratios, and the movie industry at large. We create our own feminist framework, which takes a combination of alternative tests inspired by the Bechdel test, to assess all facets of a movie, from the production process to the finished product.

Our feminist score draws from a rubric of four testing categories: the making of the movie behind camera, the intersectional representation of women of color, the actual portrayal of female protagonists, and the composition of the supporting cast. To evaluate representation behind the camera, we use the Rees-Davies test to check if there are at least two women in every department. This test is important because power imbalances behind the scenes often lead to uncomfortable relationships between male producers and their actresses, and this test checks that there is more female support in each department. To evaluate intersectionality, we use the Ko test to determine if there is a non-white, English-speaking female character that appears in at least five scenes. Representation of not only women, but women of color in Hollywood is especially important in ensuring equality. To evaluate the role of a female protagonist, we use the Pierce test which looks at the depth of a lead female character: does the character have her own story, does the character exist with wants and needs that she pursues with action, and can the character gain audience empathy for her desires. It is important that female characters are well developed and not just filler characters added for the guise of equal representation. And finally, to evaluate the supporting cast, we use the Feldman test which operates under a point system and draws from a slew of criteria with different point values.

A movie passes the test if it can accumulate 5 points, with 2 points awarded if the writer or director is female, if there is a female protagonist who controls the story outcomes, or if there are no female characters that are stereotypically represented, victimized, or sexualized. Additionally, a movie can earn 1 point if there is a female composer or director of photography, if there are three female producers or department heads, if 50% of the crew is female, or if a sex scene is either initiated by a female character or if the scene depicts foreplay.

The combination of these tests provides us with an initial list of viable feminist movies. Since more than a handful pass the same number of tests, we also look at the proportion of female actors as a tiebreaker. Movies with a cast of 40% female actors or greater earn an additional point and are deemed more feminist than movies that share the same test results but have a lower ratio of female to male actors.

Methods

How does our program compute a feminist score?

We implemented a method called `feministScore()` that calculates and returns a movie's feminist score through a combination of four tests: Rees-Davies Test, Ko Test, Peirce Test, and Feldman Test. In addition to the alternative Bechdel tests is a requirement that 40% of the cast are women. Each parameter is weighted 20% of the score.

To begin, we initialized a counter to keep track of the total score. We used a getter `getAllTestResults()` to get all test results of the movie object and stored these results into a Vector. We observed in the file "nextBechdel_allTests.txt" that the results of the alternative Bechdel tests are arranged in the same order for every movie. The header of the file tells us which test corresponds to the value at each index. For example, the Rees-Davies test results are at index 12. Therefore, we can use a conditional to check whether the value at a specific index is equal to zero (meaning the movie passed). If the movie passed the test, the feminist score increased by one. If the movie failed the test, we printed an informative message.

Another aspect in the definition of our feminist score was whether or not the cast had a percentage of women actresses greater than 40%. If the movie production had a cast of women greater than 40%, the total feminist score increased by one. To find the number of females in the cast, we initialized an instance variable called `femaleCastSize` to zero. We looped through the collection of `movieActors` and if the actors' gender was female, we increased the counter of `femaleCastSize` by one. Furthermore, to find the female cast percentage, we divided the female cast size by the total number of people in the cast.

How does our program provide a way to organize data so users can easily sort by feminist score?

Through `rankMovies()`, our program utilizes a priority queue so users can easily sort by feminist score. We implemented the interface `Comparable` so that the program will know which movie has a greater feminist score than the other. If movies have the same feminist score, we broke the tie by comparing the percentage of female cast. Finally, when movies are dequeued out of the priority queue, our program sorts the movies from most feminist to least feminist.

Discuss how our solution would change (or not) if your available data included information about more movies.

If our available data included information about more movies, the alternative Bechdel tests we chose to help compute our feminist score could change. More specifically, if the alternative Bechdel tests had more movies pass, then we would consider them in the feminist score. For example, when brainstorming how to define our feminist score, we decided not to use the Uphold Test because none of the movies passed the test. We wanted data results so we could populate our data structure and show that our test worked.

Conclusion

Findings

Upon implementing the feminist score calculations and ranking the 50 movies, none of the 50 movies were found to have a feminist score of 4 or 5 (out of 5). As shown in the printout of test results (see pp. 5-6), 14 movies had a score of 3, 22 movies had a score of 2, 11 movies had a score of 1, and 3 movies had a score of 0. These results show that there is significant progress to be made in the filmmaking industry both in the works and behind the scenes. This score was calculated using selected tests that assessed gender (im)balance or (lack of) representation in cast, crew, and characters. Hiring decisions should strive for gender equality in the workplace that matches the real world proportion of roughly-equal men and women populations. Given the general gender equality of educational resources, occupational gender imbalances are a product of biases in hiring decisions. To correct for existing imbalances, more women should be deliberately hired across all departments, and especially in more leadership roles. Films themselves should reflect a greater diversity of stories, portraying characters of various genders and backgrounds and fleshing out their individual journeys and development on screen.

A new alternate Bechdel test

The existing tests can be divided, as the FiveThirtyEight article does, into four broad categories of female protagonists, supporting cast, female cast diversity, and crew. Among the 50 movies tested, no movie passed either the Uphold Test or the White Test, which require that the on-set crew and the departments, respectively, have at least 50 percent women members. The White Test also requires that half of the department heads and half the crew members are women.

We understand feminism, as defined by Merriam-Webster, to be “the advocacy of women’s rights on the basis of the equality of the sexes.” The world population of men and women is roughly equal. It is noteworthy that none of the movies passed either test, but because that is the case, it cannot provide further insight on the relative performance of the movies. Lowering the cutoff percentage could better reflect the “roughly equal” nature of real populations. Strictly requiring half or more eliminates movies with a crew of 48 or 49 percent women, which we would still consider as roughly equal.

Additionally, there is also a growing number of people publicly identifying as non-binary genders. This makes a 50-percent-women cutoff less representative. A test that requires 45 percent of the crew be women, for example, thus evaluates the criteria with a more reasonable bottom-line.

The Bechdel Test and most alternative tests are simple in design, evaluating only a single criterion. However, we consider tests with more flexibility such as the Feldman Score to provide a more holistic assessment of a movie’s gender (im)balance. We thus propose an alternate test that combines the Uphold, White, and Rees Davies Test by checking the following three criteria: (1) at least 50 percent of the on-set crew are women or non-binary, (2) 50 percent of department heads are women or non-binary, and (3) that 90 percent of departments have at least two women or non-binary members. A movie passes by meeting at least two of the

three criteria. This test provides a more holistic picture while accounting for non-binary genders excluded from other tests, as well as up to 10 percent difference between genders.

Overall, simple tests with single criteria are easy to conduct and interpret, but they may oversimplify the nuances of films and the larger filmmaking industry. Tests such as the Feldman Score offer more flexibility with several criteria and a requirement to meet at least some number of them. We propose a more comprehensive yet reasonable test to assess movie crews to have more informative results in that category of alternative tests.

Collaboration

As a team, we worked collaboratively and productively since the start. In fact, we got started the very day we formed our group. For the past few weeks, we met regularly several times a week. The programming was a fully collaborative process as we took turns being “driver” and discussed every step of each task. We met both in person and on Zoom, always on one laptop. When working remotely, we used the remote control feature of Zoom. (This feature fascinated some team members.)

At every meeting, we set a goal to make a certain amount of progress while still being accommodating of our schedules and energy levels. We recognized early on that we have a noticeable drop in energy after 90 minutes or so, so we arranged for shorter, more frequent meetings instead of long chunks. Once we reach our goal or a good stopping point (and that energy dip), we agree to wrap things up and schedule our next meeting. This process has been effective and enjoyable as we make and take pride in our progress every time.

The only work that was divided was the writing of this report itself. We split up writing the Introduction, Methods, and Conclusion, each of us taking one section.

Printout of Task 4.2 Test Results

Bad Moms has the highest feminist score of 3

----- RESULTS -----

Bad Moms has 16 actors. Its feminist score is 3 (63% female cast)

The Boss has 37 actors. Its feminist score is 3 (49% female cast)

Moana has 7 actors. Its feminist score is 3 (43% female cast)

The Divergent Series: Allegiant has 91 actors. Its feminist score is 3 (40% female cast)

Alice Through the Looking Glass has 23 actors. Its feminist score is 3 (39% female cast)

Hidden Figures has 96 actors. Its feminist score is 3 (33% female cast)

Ghostbusters has 54 actors. Its feminist score is 3 (30% female cast)

Sing has 55 actors. Its feminist score is 3 (29% female cast)

Independence Day: Resurgence has 28 actors. Its feminist score is 3 (29% female cast)

Finding Dory has 28 actors. Its feminist score is 3 (29% female cast)

Star Trek Beyond has 23 actors. Its feminist score is 3 (26% female cast)

Kung Fu Panda 3 has 36 actors. Its feminist score is 3 (25% female cast)
 Sausage Party has 33 actors. Its feminist score is 3 (24% female cast)
 Suicide Squad has 54 actors. Its feminist score is 3 (19% female cast)
 Lights Out has 14 actors. Its feminist score is 2 (71% female cast)
 Don't Breathe has 10 actors. Its feminist score is 2 (50% female cast)
 The Conjuring 2: The Enfield Poltergeist has 32 actors. Its feminist score is 2 (47% female cast)
 Trolls has 32 actors. Its feminist score is 2 (47% female cast)
 La La Land has 49 actors. Its feminist score is 2 (41% female cast)
 Passengers has 27 actors. Its feminist score is 2 (41% female cast)
 Arrival has 60 actors. Its feminist score is 2 (35% female cast)
 The Girl on the Train has 20 actors. Its feminist score is 2 (35% female cast)
 Ice Age: Collision Course has 18 actors. Its feminist score is 2 (33% female cast)
 Miss Peregrine's Home for Peculiar Children has 53 actors. Its feminist score is 2 (30% female cast)
 Ride Along 2 has 50 actors. Its feminist score is 2 (30% female cast)
 Batman v Superman: Dawn of Justice has 122 actors. Its feminist score is 2 (30% female cast)
 Storks has 25 actors. Its feminist score is 2 (28% female cast)
 The Purge: Election Year has 41 actors. Its feminist score is 2 (27% female cast)
 Pete's Dragon has 41 actors. Its feminist score is 2 (27% female cast)
 Fantastic Beasts and Where to Find Them has 61 actors. Its feminist score is 2 (26% female cast)
 Now You See Me 2 has 48 actors. Its feminist score is 2 (25% female cast)
 The Accountant has 58 actors. Its feminist score is 2 (24% female cast)
 Captain America: Civil War has 26 actors. Its feminist score is 2 (23% female cast)
 Boo! A Madea Halloween has 42 actors. Its feminist score is 2 (19% female cast)
 Central Intelligence has 25 actors. Its feminist score is 2 (16% female cast)
 Jason Bourne has 43 actors. Its feminist score is 2 (14% female cast)
 The Angry Birds Movie has 47 actors. Its feminist score is 1 (36% female cast)
 Zootopia has 32 actors. Its feminist score is 1 (31% female cast)
 10 Cloverfield Lane has 10 actors. Its feminist score is 1 (30% female cast)
 Doctor Strange has 29 actors. Its feminist score is 1 (28% female cast)
 X-Men: Apocalypse has 90 actors. Its feminist score is 1 (20% female cast)
 The Secret Life of Pets has 31 actors. Its feminist score is 1 (19% female cast)
 Rogue One: A Star Wars Story has 33 actors. Its feminist score is 1 (18% female cast)
 The Jungle Book has 11 actors. Its feminist score is 1 (18% female cast)
 The Legend of Tarzan has 58 actors. Its feminist score is 1 (17% female cast)
 The Magnificent Seven has 48 actors. Its feminist score is 1 (6% female cast)
 Hacksaw Ridge has 90 actors. Its feminist score is 1 (6% female cast)
 Deadpool has 34 actors. Its feminist score is 0 (32% female cast)
 Sully has 61 actors. Its feminist score is 0 (25% female cast)
 Teenage Mutant Ninja Turtles: Out of the Shadows has 23 actors. Its feminist score is 0 (22% female cast)