Lights, Camera… Conversation?

A Data-Driven Look at Women's Representation in Film

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Introduction: The Stories We Don't Hear

We often remember films for their bold heroes, unforgettable lines, and sweeping soundtracks. But what we don't notice can be just as revealing as what we do. In many movies, women appear on screen, yet their voices remain strangely absent, not because they aren't present, but because they aren't given space to speak, interact, or exist outside of male-centered narratives.

This pattern is easy to overlook. **Representation** rarely fails in dramatic, obvious ways. Instead, it fades quietly into the background through small, repeated choices: a conversation that never happens, a character without a name, a relationship defined entirely by someone else's story.

To move beyond personal impressions and into something measurable, this analysis uses a simple but powerful framework: **the Bechdel Test**. By combining it with IMDb ratings, genre breakdowns, and historical trends, we can explore how women's representation in film has evolved and where it still falls short.

The Lens: What the Bechdel Test Measures (and What It Doesn't)

The Bechdel Test asks three straightforward questions:

1.   Are there at least **two named women** in the film?
2.   Do they **talk to each other**?
3.   Do they **talk about something other than a man**?

Passing all three doesn't guarantee a film is feminist, progressive, or even well-written. But failing any one of them often signals how easily women's perspectives can disappear from the narrative. The test works best as a baseline indicator, not a final judgment, but a way to spot patterns at scale rather than evaluate individual stories.

With that lens in place, the next step is to ask: how have these patterns changed over time?

A Long View: Representation Across Decades

The time-series visualization reveals that progress has been real, but far from smooth. Early decades show sharp volatility, reflecting both limited film output and rigid storytelling norms. As the industry expands through the mid-20th century, clearer trends emerge.
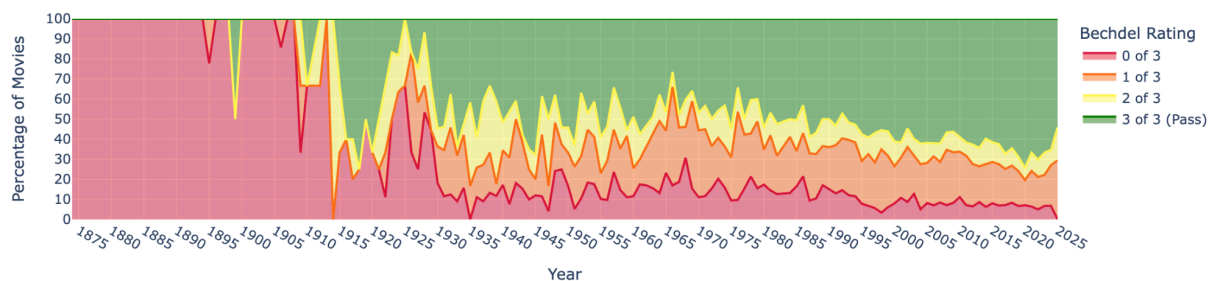

Figure 1: Bechdel Test Results Over Time

The most noticeable shift is the gradual growth of films that pass all three Bechdel criteria. In recent decades, this "3 of 3" category has become more prominent, suggesting that women's interactions and roles have become more **normalized in mainstream storytelling**.

Yet this progress is incomplete. Even in modern years, a meaningful share of films still fall into partial or total failure categories. This uneven progress suggests that representation is shaped less by time alone and more by the kinds of stories being told, making genre a natural measure for how narrative structures enable or limit women's on-screen interactions.

This raises an important follow-up question: does representation depend on genre?

Genre as a Structural Influence

When we break the data down by genre, the picture becomes more nuanced. The diverging bar chart and stacked distribution plots reveal that representation is not evenly distributed across storytelling traditions.
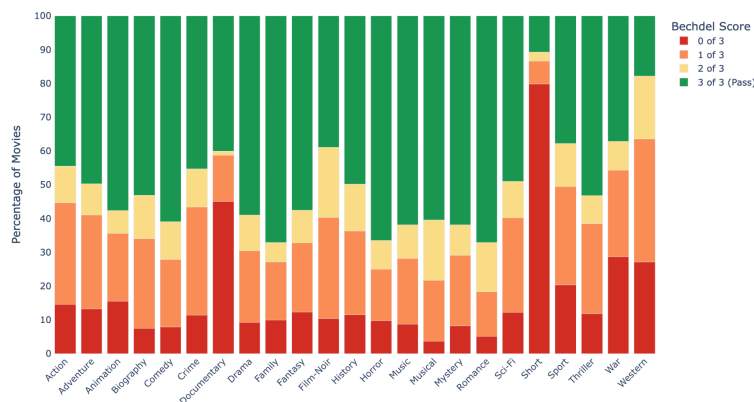

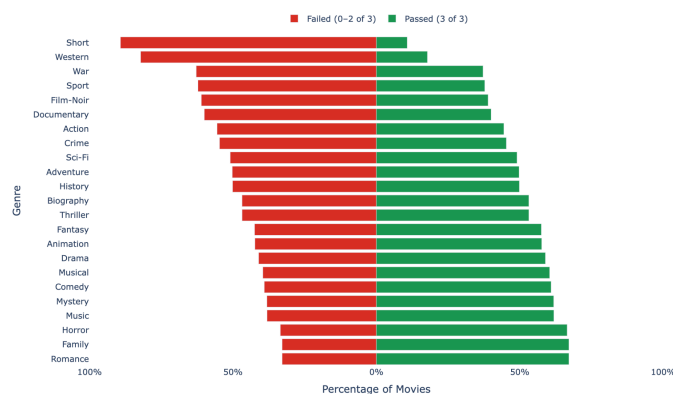Figure 2: Bechdel Test Results by Genre

Figure 3: Bechdel Test Score

Distribution by genre

Genres such as **Romance**, **Family**, and **Drama** tend to show higher pass rates. These categories often center on relationships, emotional development, and dialogue-driven narratives, structural features that naturally create space for women to interact with each other.

In contrast, genres like **War**, **Western**, and **Action**-heavy categories show significantly higher failure rates. These genres are historically rooted in male-dominated environments, battlefields, frontiers, and lone-hero narratives, which limit opportunities for women to appear as named, interacting characters.

What's striking here is that these gaps aren't just about individual creative decisions. They reflect genre conventions that **quietly shape who gets narrative space and who doesn't**. Representation, in this sense, becomes a structural feature of storytelling rather than a purely intentional one.

But how does this connect to audience response?

Popularity Versus Representation: A False Trade-Off?

A common assumption is that more inclusive storytelling might appeal to a narrower audience. The IMDb rating distributions challenge this idea.

When comparing films that pass the Bechdel Test with those that fail, the curves largely overlap. Both groups cluster around similar average ratings, suggesting that representation does not come at the cost of audience approval.

If anything, this pattern implies that **inclusivity and popularity can comfortably coexist**. Audiences appear just as willing to engage with films that feature stronger female presence as they are with those that don't.
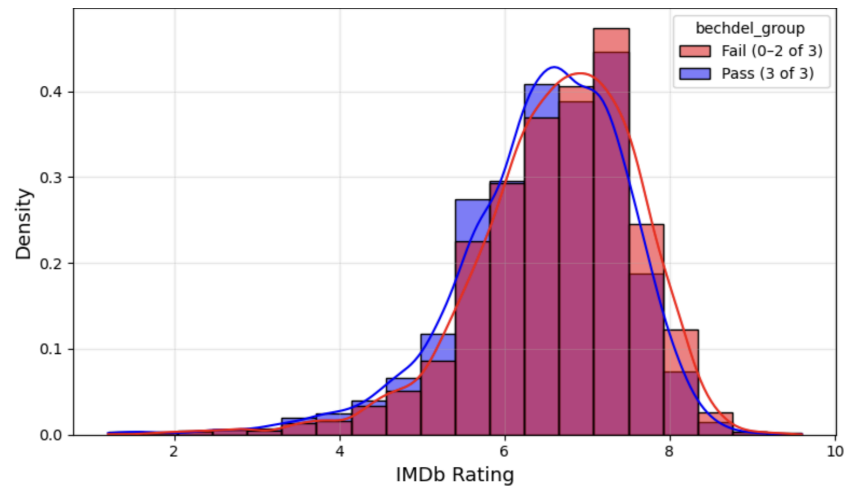

Figure 4: IMDb Rating Distribution by Bechdel Test Outcome

This shifts the conversation away from "Will this hurt our ratings?" toward a more meaningful question: "If it doesn't hurt, why isn't it more consistent?"

Zooming Out: Volume and Visibility

Not all genres carry the same cultural weight. The bubble chart highlights the difference between how many films a genre produces and how those films perform.
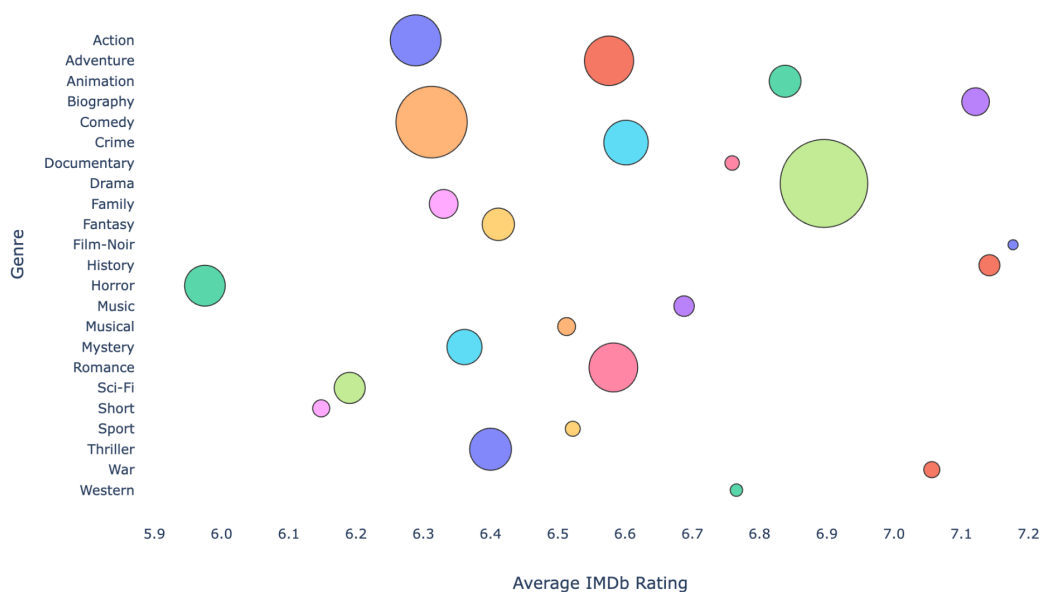

*Figure 5: Genre Distribution by IMDb Rating and Movie Count*

Large bubbles like **Drama and Comedy** dominate the landscape. Because these genres release so many films, their patterns of representation, good or bad, reach far more viewers. Smaller genres such as **Film-Noir and Western**, while influential in style and legacy, contribute fewer films overall.

This matters because **impact scales with volume**. A genre with moderate representation issues but massive output can shape cultural norms far more than a niche genre with similar gaps. Representation, in this sense, isn't just about quality, it's about reach.

Beneath the Averages: Inside Individual Genres

After seeing how certain genres dominate in sheer volume and visibility, it naturally raises a new question: does scale translate into quality? Shifting from size to score, comparing the genres with the highest and lowest average IMDb ratings reveals whether audience reception aligns with cultural reach, or if the most visible genres simply dominate by presence rather than performance.

An interesting contrast emerges when comparing Bechdel outcomes with genre-level ratings. Genres such as **horror, sci-fi, and family** show a relatively high proportion of movies that fully pass the Bechdel Test, suggesting stronger on-screen representation of women by the test's criteria. Yet despite this, these genres tend to sit on the lower end of average IMDb ratings. **Short films** appear to fail the test more frequently, which may reflect the constraints of limited runtime. There is often less space to build fully developed characters and meaningful exchanges, especially between women.
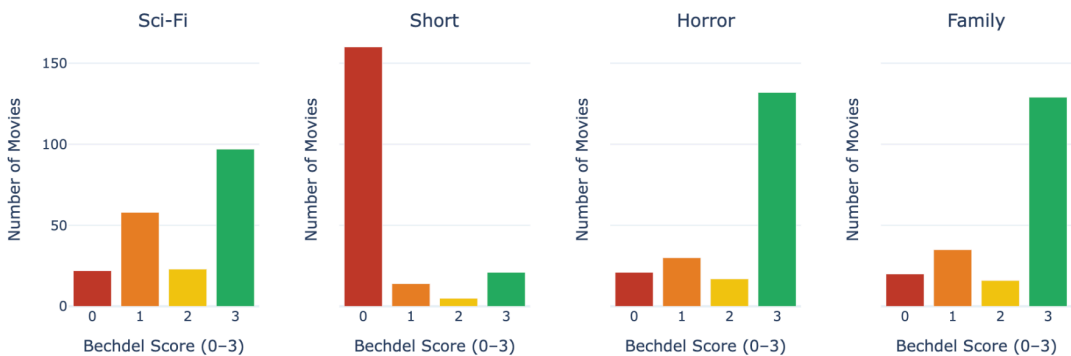

 In contrast, **biography and history** have more movies that pass all 3 rules compared to **war and film-noir** which show more mixed or weaker Bechdel performance.These genres have the highest imdb ratings, signifying stronger critical reception while showing high or diverse Bechdel performance. This disconnect highlights that audience or critical acclaim does not necessarily align with representational equity, and that genres making measurable progress in representation are not always the ones most rewarded in terms of perceived quality.
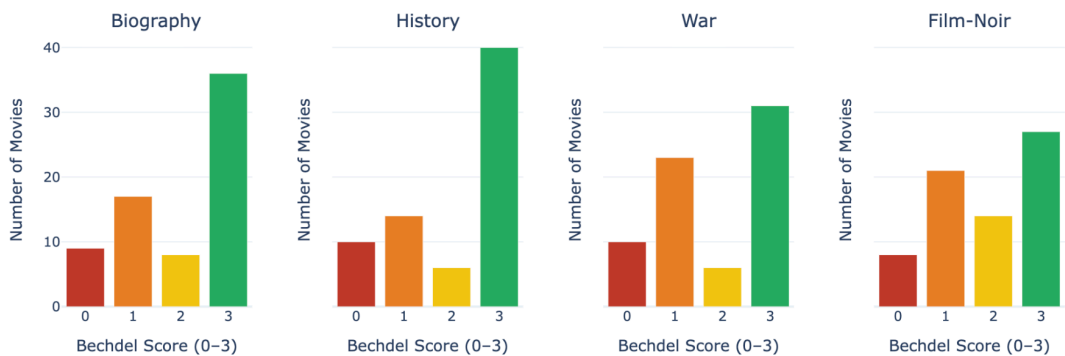
While conclusions like these can be easily drawn based on this data, it should be noted that these genres that are rated at both extremes have a considerably less volume of movies compared to the more prominent ones. Even within these mini charts we have taken a fixed and lower number of movies per genre so as to get the most normalised and fair comparison possible while maintaining sufficient scale to preserve meaningful genre-level trends. In the movie genres with the lowest and highest bechdel ratings we have taken 70 and 200 movies respectively through random sampling.

Representation Across Time and Genre

Now lets zoom all the way out one last time to bring all our dimensions together: **time, genre, audience ratings, and representation.**
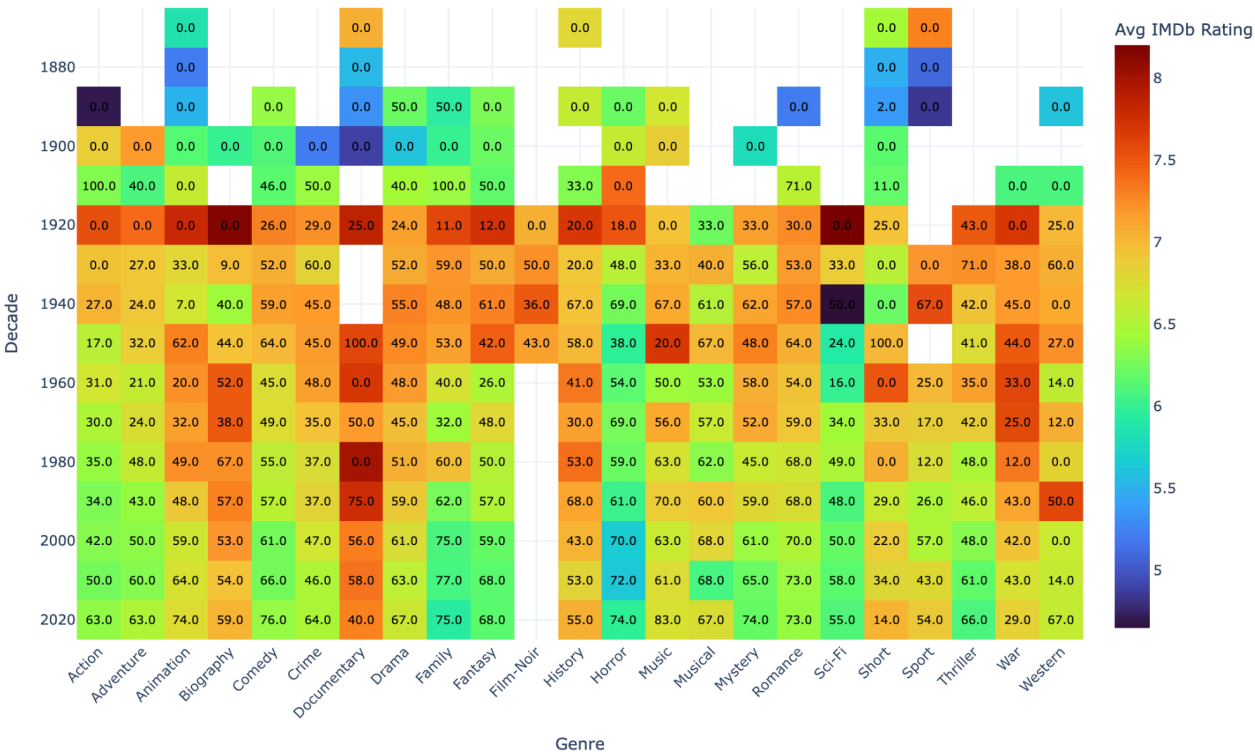
Figure 6: IMDb Ratings (Color) with Bechdel Pass Rate % (Text) by Genre and Decade

Earlier decades show s[...]traditions. As time progresses, the grid becomes more populated and more varied.

Some genres show steady improvement in Bechdel pass rates while maintaining strong IMDb ratings. This suggests that more inclusive storytelling doesn't just coexist with audience approval — it can grow alongside it.

Other genres fluctuate, hinting at changing cultural moments, production trends, or shifts in audience demand. Rather than a single upward trend, the heatmap reveals a **patchwork of progress**, shaped by history and genre-specific norms.

Pulling the Threads Together

Across all visuals, a consistent story emerges:

Overall Distribution of Bechdel Test Results

- Representation has improved over time, but not evenly.
- Genre conventions strongly influence who gets narrative space.
- Audience approval does not appear to penalize inclusive storytelling.
- High-volume genres have an outsized cultural impact, for better or worse.

What makes these patterns powerful is how subtle they are. Underrepresentation rarely shows up as a dramatic absence. Instead, it appears as a quiet pattern of fewer conversations, fewer named characters, and fewer moments where women exist independently within the story. Repeated across decades and genres, these small omissions become a structural signal about whose voices are centered in popular culture.
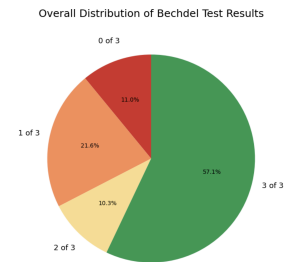
Why This Matters and What Comes Next

This analysis isn't about labeling films as "good" or "bad." It's about visibility. Data helps move the conversation beyond isolated examples and into broader patterns that are harder to ignore.

The Bechdel Test, for all its simplicity, reveals something fundamental: giving women space to speak, interact, and exist within stories is not a radical act and it doesn't cost audience approval.

The next step is not just passing a test, but imagining what storytelling looks like when women are consistently written into narratives as leaders, rivals, collaborators, and protagonists in their own right. The data suggests that audiences are ready for those stories. The question is how often the industry will choose to tell them.

Next Experiments — If I Had One More Week

Character Depth Analysis: Measure screen time, dialogue volume, and narrative centrality of female characters, not just their presence.
Regional Comparisons: Compare representation trends across film industries (Hollywood vs. international cinema).
Revenue Impact: Analyze box office performance alongside Bechdel scores to explore commercial outcomes.
Creative Roles: Link representation patterns to the presence of women in writing, directing, and producing roles.

References:

Website for dataset: Bechdel Test Movie List
API documentation: bechdeltest.com API documentation
Analysis: Stats and graphs - Bechdel Test Movie List and https://imgur.com/a/bechdel-test-charts-612eD#0
Visualisation research and ideas: Fundamentals of Data Visualization