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The Ticket to Inclusion

As Hollywood tallies its year-end totals and looks toward Oscar hopefuls, a new study offers insight into how the gender, race and ethnicity of leading characters relate to economic success.

[Rene Weber](#), a professor in UC Santa Barbara's Department of Communication and director of the Media Neuroscience Lab, collaborated with Stacy Smith, director of the Inclusion Initiative at the University of Southern California's Annenberg School for Communication and Journalism. The team investigated what Weber referred to as the "myth in Hollywood": that films with female or underrepresented minority leads tend to perform worse at the box office than those with white males in primary roles. The [report](#) was commissioned by ReFrame, a collaboration between Sundance Institute and Women In Film.

Many industry decision-makers base hiring, financing and production choices on the belief that films with female leads and those from underrepresented racial and ethnic groups earn less at the box office than films with male or white leads, both domestically and internationally. But in accepting this myth as truth, they ignore that these same films also tend to receive lower production budgets, less marketing support and distribution in fewer theaters than films with male or white leads, the study's authors claimed.

The team created and analyzed a unique dataset of 1,200 popular films from 2007 to 2018. "Among other things, we showed that — accounting for production, distribution and story strength — films with female and underrepresented leads

perform just as well as — or better than — those with white male leads," Weber said.

They examined more than a dozen production, distribution and exhibition factors that could influence economic performance domestically and internationally. Along with these indicators, the lead characters' gender, race and ethnicity — as well as the percentage of the cast that was female or from an underrepresented ethnic group — were included in the models.

The findings showed that the strongest predictors of economic success domestically were story strength, marketing, production costs and the number of theaters in which a movie was released. As these factors increased, so did revenue. Films with female leads were not associated with greater earnings than those with male leads.

Additionally, the presence of an underrepresented lead was a significant positive predictor of box office success, the researchers found. Simply put, films with leads from underrepresented groups earned more revenue when other factors were accounted for in the model.

"This study confirms our previous work indicating that the gender of the lead/co-lead character is not a significant predictor of box office performance," said coauthor Stacy Smith, a professor at USC's Annenberg School. "Rather, it is other factors that are within the control of executives — production costs, promotion, distribution density and the story itself — that play a key role in a movie's success."

The findings regarding international revenue were more complex. The authors found that production costs, story strength and international marketing — as well as whether a film was released in China and the number of international territories in which it was released — were the strongest positive predictors of success. Having a cast with a higher percentage of females increased revenue; however, including a greater proportion of characters from underrepresented racial and ethnic groups generally led to lower earnings. Notably, the gender, race and ethnicity of the lead character did not significantly predict earnings.

The team also found that films with a high proportion of underrepresented characters (81% or more) in stories with an underrepresented lead were associated with the greatest international revenue. In contrast, films with a high proportion of underrepresented characters (81% or more) but with only white leads were associated with the lowest international revenue.

"We call on the industry to level the playing field by providing the same production and marketing support to all films (of similar genre) without regard to gender or race/ethnicity," said Alison Emilio, director of ReFrame.

Weber and his colleagues' ongoing work in this area, funded by the John Templeton Foundation, focuses on the concept of story strength and its interactions with various inclusion and diversity dimensions. Weber and his team at UC Santa Barbara's Media Neuroscience Lab have developed sophisticated and innovative algorithms to analyze moral conflict in stories and media, spanning content from news coverage to movies.

Dubbed the Moral Narrative Analyzer, or MoNA, the platform combines its analyses with evaluations sourced from a large group of people with diverse backgrounds. Using a large amount of film scripts, the team uses MoNA's abilities to analyze character relations and moral framing of underrepresented minorities in films and how these factors influence story strength and film performance.

"We hope that this (and future) work will further contribute to making Hollywood a more inclusive and equitable place," Weber said.

About UC Santa Barbara

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