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HISTORIC GENDER PARITY IN CHILDREN'S TELEVISION



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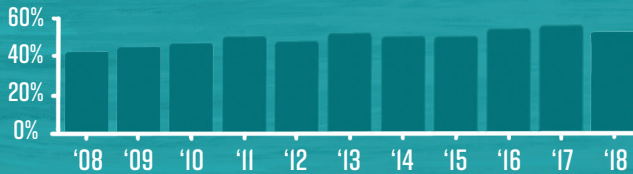
USC Viterbi
School of Engineering

CHILDREN'S TELEVISION

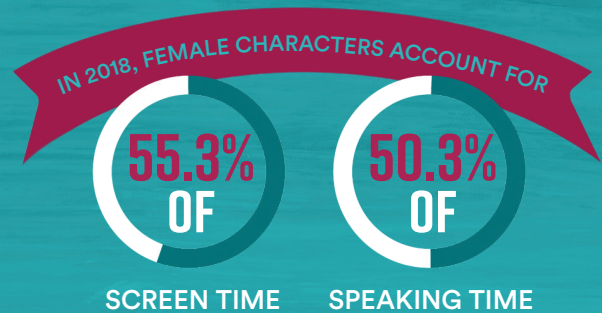


GENDER

HISTORIC FINDING OF GENDER PARITY IN LEADING CHARACTERS

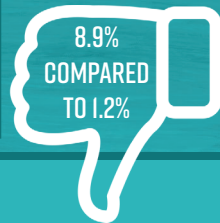


WE'VE SEEN A DRAMATIC RISE IN LEADING FEMALE CHARACTERS FROM 42.0% (2008) to 52.0% (2018)



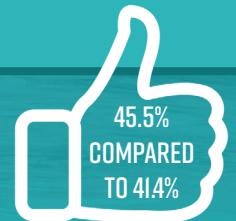
GENDER STEREOTYPES REINFORCED

FEMALE CHARACTERS ARE 7X MORE LIKELY TO BE SHOWN IN REVEALING CLOTHING



GENDER STEREOTYPES CHALLENGED

FEMALE CHARACTERS ARE MORE LIKELY TO BE SHOWN AS LEADERS



RACE

PEOPLE OF COLOR UNDERREPRESENTED

26.1% OF LEADING CHARACTERS ARE PEOPLE OF COLOR

PEOPLE OF COLOR MAKE UP 38% OF THE U.S. POPULATION

RACIAL STEREOTYPES CHALLENGED



● WHITE CHARACTERS

● CHARACTERS OF COLOR

SEXUALITY

LGBTQ+ CHARACTERS VIRTUALLY NONEXISTENT

<1.0% OF LEADING CHARACTERS ARE LGBTQ+

DISABILITY

CHARACTERS WITH DISABILITIES VIRTUALLY NONEXISTENT

<1.0% OF LEADING CHARACTERS HAVE A DISABILITY

HARMFUL DEPICTIONS OF LGBTQ+ PEOPLE

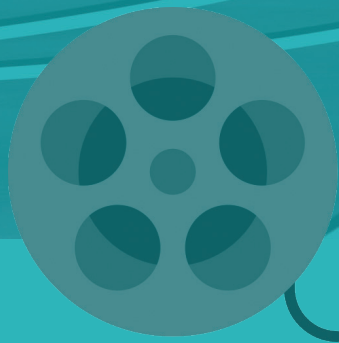


● HETEROSEXUAL CHARACTERS

● LGBTQ+ CHARACTERS

CHILDREN'S FILMS

(TOP 100 FILMS RATED G, PG, AND PG-13)



GENDER

GENDER GAP IN LEADING CHARACTERS

32.8%

OF LEADING CHARACTERS
ARE FEMALE

IN 2018, FEMALE CHARACTERS ACCOUNT FOR

39.8%
OF

SCREEN TIME

36.6%
OF

SPEAKING TIME

GENDER STEREOTYPES REINFORCED

FEMALE
CHARACTERS
ARE

6X

MORE LIKELY
TO BE SHOWN IN
REVEALING CLOTHING



SHOWN AS VIOLENT



SHOWN AS CRIMINAL

● MALE CHARACTERS

● FEMALE CHARACTERS

RACE

RACE GAP IN LEADING CHARACTERS

28.8%

OF LEADING CHARACTERS ARE
PEOPLE OF COLOR

RACIAL STEREOTYPES CHALLENGED



SHOWN AS INTELLIGENT

● WHITE CHARACTERS

● CHARACTERS OF COLOR

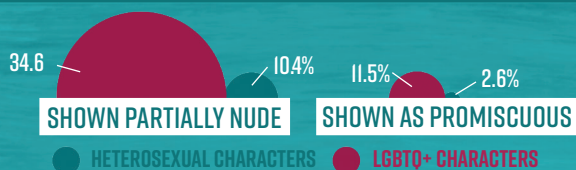
SEXUALITY

LGBTQ+ CHARACTERS UNDERREPRESENTED

5.0%

OF LEADING CHARACTERS ARE
LGBTQ+

HARMFUL DEPICTIONS OF LGBTQ+ PEOPLE



SHOWN PARTIALLY NUDE

SHOWN AS PROMISCUOUS

● HETEROSEXUAL CHARACTERS

● LGBTQ+ CHARACTERS

DISABILITY

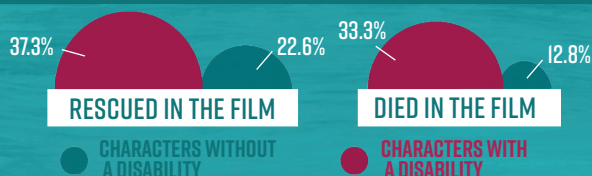
CHARACTERS WITH DISABILITIES UNDERREPRESENTED

8.1%

OF LEADING CHARACTERS
HAVE A DISABILITY

THIS IS THE HIGHEST PERCENTAGE OF THE LAST DECADE

DISABILITY STEREOTYPES REINFORCED



RESCUED IN THE FILM

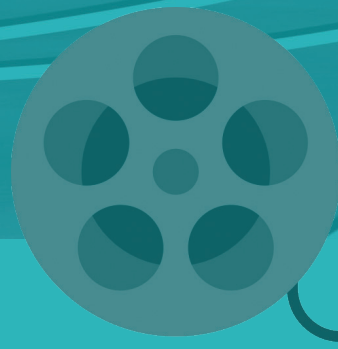
DIED IN THE FILM

● CHARACTERS WITHOUT
A DISABILITY

● CHARACTERS WITH
A DISABILITY

POPULAR FILMS

(TOP 100 FILMS RATED G, PG, PG-13, AND R)



GENDER

GENDER GAP IN LEADING CHARACTERS

39.1%

OF LEADING CHARACTERS
ARE FEMALE

IN 2018, FEMALE CHARACTERS ACCOUNT FOR

39.0%
OF

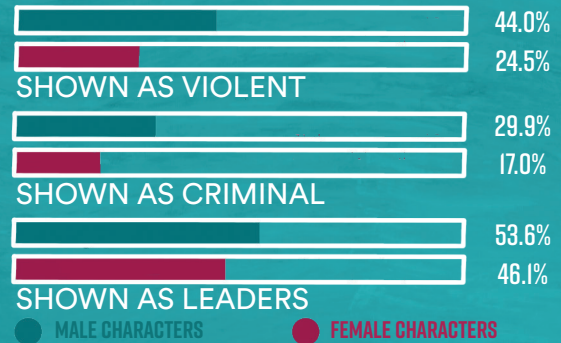
SCREEN TIME

36.2%
OF

SPEAKING TIME

GENDER STEREOTYPES REINFORCED

FEMALE CHARACTERS ARE **6X** MORE LIKELY TO BE SHOWN IN REVEALING CLOTHING



RACE

RACE GAP IN LEADING CHARACTERS

27.9%

OF LEADING CHARACTERS ARE
PEOPLE OF COLOR

RACIAL STEREOTYPES REINFORCED

CHARACTERS OF COLOR ARE MORE LIKELY TO BE SHOWN IN A CRIMINAL OCCUPATION

15.5%
COMPARED
TO 10.2%

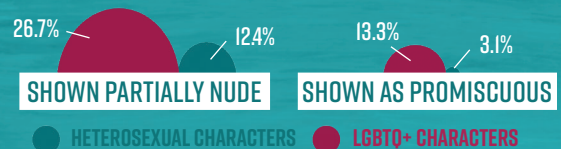
SEXUALITY

LGBTQ+ CHARACTERS UNDERREPRESENTED

4.4%

OF LEADING CHARACTERS ARE
LGBTQ+

HARMFUL DEPICTIONS OF LGBTQ+ PEOPLE



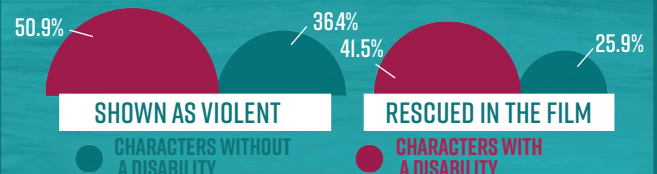
DISABILITY

CHARACTERS WITH DISABILITIES UNDERREPRESENTED

6.1%

OF LEADING CHARACTERS
HAVE A DISABILITY

DISABILITY STEREOTYPES REINFORCED



EXECUTIVE SUMMARY

Since 2004, the Geena Davis Institute on Gender in Media, a project of Mount Saint Mary's University, has advocated for greater inclusion in entertainment media through cutting-edge research and advocacy. The Institute is moving the needle on intersectional gender representation by working directly within the industry, with a particular focus on children's entertainment. This report analyzes representations of gender, race, LGBTQ+ individuals, and people with disabilities in popular entertainment media in 2018. We examine characters in children's television shows, children's films, and popular films. Here are our key findings.

GENDER

Children's Television

- We have seen a dramatic rise in the number of female leads/co-leads in children's television shows – from 42.0% (2008) to 52.0% (2018). This is an historic finding of gender parity in the most prominent characters in children's television.
- In 2018, female characters account for 55.3% of screen time and 50.3% of speaking time.
- Female characters are seven times more likely to be shown in revealing clothing than male characters (8.9% compared to 1.2%).
- Female characters are significantly more likely to be depicted as leaders than male characters (45.5% compared to 41.4%).

Children's Films

- Unlike children's television, a gender gap in leading/co-leading characters persists in children's films. In 2018, male characters make up 67.2% of leads, compared to 32.8% female leads in children's films.
- Female characters account for 36.6% of speaking time and 39.8% of screen time in children's films.
- Female characters are six times more likely than male characters to be shown in revealing clothing (26.9% compared to 4.5%). Characters in children's films are shown in revealing clothing three times more often than characters in children's television.

- Male characters are more likely than female characters to be shown as violent (34.3% compared to 18.6%), and twice as likely to be shown as criminal (20.3% compared to 13.7%) in children's films.

Popular Films

- Popular films (the top 100 grossing films rated G - R) are better than children's films when it comes to gender and leading/co-leading characters, but gender parity is elusive. Male characters make up 60.9% of leads, far outpacing female leads (39.1%).
- Female characters account for 36.2% of speaking time and 39.0% of screen time.
- Female characters are six times more likely than male characters to be shown in revealing clothing (27.3% compared to 4.6%). Female characters in the top films are equally likely to be shown in revealing clothing as female characters in children's films, and three times more likely than female characters in children's television.
- Female characters in rated-R (30.8%) and rated PG-13 (29.6%) films are twice as likely to be shown in revealing clothing than female characters in rated-PG films (14.5%).
- Male characters are more likely than female characters to be shown as violent (44.0% compared to 24.5%) and criminal (29.9% compared to 17.0%).
- Male characters are more likely to be shown in positions of leadership than female characters (53.6% compared to 46.1%).

RACE

Children's Television

- People of color make up 38.0% of the U.S. population, but only 26.1% of leading characters.
- Characters of color are shown as more intelligent than white characters (59.6% compared to 43.2%).

Children's Films

- People of color make up 28.8% of protagonists (leads and co-leads). Since 2011, leads/co-leads of color have steadily increased.
- Characters of color are more likely to be shown as intelligent than white characters (56.0% compared to 44.7%).

Popular Films

- People of color make up 27.9% of the leading/co-leading characters.
- Characters of color are more likely than white characters to be shown in a criminal occupation (15.5% compared to 10.2%).

SEXUALITY

Children's Television

- LGBTQ+ characters are virtually nonexistent, making up 0.2% of leading characters.
- LGBTQ+ characters are far more likely than heterosexual characters to be verbally sexually objectified (25.0% compared to 1.1%).
- LGBTQ+ characters are also more likely to be shown as criminal than heterosexual characters (50.0% compared to 8.5%).
- In children's television, LGBTQ+ characters are far more likely to be portrayed as having low intelligence than heterosexual characters (50.0% compared to 6.7%).

Children's Films

- 95.0% of prominent characters are heterosexual, and this number has not

improved in the past decade.

- LGBTQ+ characters are more likely than heterosexual characters to be shown as partially nude (34.6% compared to 10.4%).
- LGBTQ+ characters are shown as more promiscuous than heterosexual characters (11.5% compared to 2.6%).

Popular Films

- 95.6% of prominent characters are heterosexual.
- LGBTQ+ characters are more likely than heterosexual characters to be shown in a state of partial nudity (26.7% compared to 12.4%).
- LGBTQ+ characters are portrayed as more promiscuous than heterosexual characters (13.3% compared to 3.1%).

DISABILITY

Children's Television

- Less than 1.0% of leading characters have a physical, mental, or communication disability.

Children's Films

- 8.1% of the most prominent characters are shown with a cognitive or physical disability, the highest percentage of the last decade.
- In children's films, characters with a disability are more likely than other characters to be rescued (37.3% compared to 22.6%).
- Characters with disabilities are more likely to die in the film than other characters (33.3% compared to 12.8%).

Popular Films

- 6.1% of leading characters are shown with a cognitive or physical disability.
- Characters with a disability are more likely than characters without a disability to be depicted as violent (50.9% compared to 36.4%).
- Characters with disabilities are more likely to be rescued (41.5% compared to 25.9%).



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INTRODUCTION

Since 2004, the Geena Davis Institute on Gender in Media (GDIGM) at Mount St. Mary's has advocated for dramatic improvement when it comes to inclusion in entertainment media. The Institute employs cutting edge research, public events, and educational initiatives in the industry to move the needle on intersectional gender representations.

Each year, we generate a comprehensive report on the state of representation in children's entertainment media. For this report, we examine characters in the 25 most popular children's television programs (ages 2 – 13), in the 100 most popular children's films (G, PG, PG-13), and in the 100 most popular films overall (G, PG, PG-13, R).

Our research focuses on children's and children's programming in order to assess how media is impacting young people because youth are the highest consumers of media, and the group most impacted by media content. A report from Common Sense Media finds that tweens use an average of six hours of entertainment media per day, while teens use an average of 9 hours per day.¹ Improving gender representations is important because entertainment media send a distinct message about who matters most in our culture, and can reinforce harmful stereotypes. Young people are particularly vulnerable to these messages as they are in the process of developing their identity and finding their place in the world.

This report is unique in a number of ways. First, we focus on content created for children and families. Second, we provide a comprehensive, representative analysis of both film and television content. Third, we employ the Geena Davis Inclusion Quotient (GD-IQ), the only software tool in existence with the ability to measure screen and speaking time through the use of automation (see Appendix A). This revolutionary tool was developed by GDIGM at Mount Saint Mary's University and funded by Google.org. The GD-IQ, which incorporates machine learning technology, was designed by Dr. Shrikanth Narayanan and his team of researchers at the University of Southern California's Signal Analysis and Interpretation Laboratory (SAIL), along with Dr. Caroline Heldman. Lastly, our research team is comprised of mostly researchers with Ph.D.s who have extensive experience in content analysis. Our coding process employs a unique coding method—double coding—where multiple experts review the same content, which produces greater validity and reliability than other media studies.



METHODOLOGY

The methodology we used to produce the data in this report is content analysis, an approach that is ideal for systematically analyzing the content of communications. The unit of analysis for the automated coding tool is character gender and character race, and the unit of analysis for human expert coding is character. We used both machine coding and human expert coding to complete this analysis, each of which is described in turn.

MACHINE CODING

For the automated analysis in this report, we used the Geena Davis Inclusion Quotient (GD-IQ), a revolutionary new automatic audio-visual tool—the first of its kind developed specifically to analyze media content—that took a team of engineers and social scientists two years to develop. Automated analysis of media content gets around the shortcomings of human coding. Beyond the significant advantage of being able to efficiently analyze more films in less time with minimal human labor, this tool can also calculate content detail to the millisecond with a level of accuracy not possible with human review.

For this report, we measured on-screen time by partitioning the film/episode into shots and detecting the gender and race of the person in each shot. We then calculated total screen time by gender and race. We measured speaking time by partitioning the film/episode into shots and applying an automatic speech detection program that classifies speaker gender. For further information about this automated processing tool, see Appendix A.

HUMAN EXPERT CODING

CHILDREN'S TELEVISION:

Our children's television dataset includes a total of 3,810 leading, supporting, and minor characters in the top 25 television shows of 2018 for younger kids (ages two to six) and the top 25 shows for older kids (ages seven to thirteen). The most watched programs were identified using Nielsen rankings, and include live-action and animation. We generated a statistically representative sample that took into account the number of episodes for each show for the season.

The most prominent characters who drive the unfolding storyline were classified as leads or co-leads. Characters who are not leads but contribute to the storyline were classified as supporting characters, and characters that appear only briefly were coded as minor characters. We identified 639 leading/co-leading characters, 1,815 supporting characters, and 1,356 minor characters.

CHILDREN'S FILMS:

Our children's film dataset includes 3,093 total characters in the top 100 children's films of 2018 (rated G, PG, or PG-13). The top children's films of 2018 were identified using data from *Variety* and include live action and animation. We identified 122 leading or co-leading characters, 963 supporting characters, and 2,008 minor characters.

POPULAR FILMS:

Our top film dataset includes 3,209 total characters in the top 100 films of 2018 (rated G, PG, PG-13, or R). The top films of 2018 were identified using data from *Variety* and include live action and animation. We identified 115 leading or co-leading characters, 979 supporting characters, and 2,115 minor characters.

FINDINGS

In this section, we summarize our major findings for character representation by gender, race/ethnicity, sexuality (LGBTQ+), and ability (with a focus on people with disabilities). We report percentages for leading/co-leading (referred to as “leading”) and supporting characters in this report.

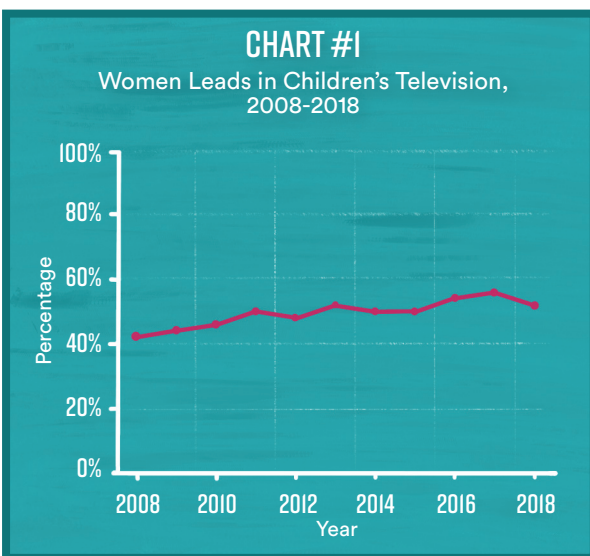
GENDER

In this section, we present findings on gender representations in children’s television, children’s films (the top 100-grossing films rated G through PG-13), and popular films (the top 100-grossing film rated G through R).

CHILDREN’S TELEVISION

Prominence

In recent years, children’s television has achieved gender parity when it comes to leading characters, an extremely significant development. Over half (52.0%) of the episodes feature a female character as a lead or co-lead.² As shown in Chart 1, the percentage of female leads/co-leads in children’s television initially achieved parity in 2011, and dramatically increased—from 42.0% to 52.0%—in the past decade.



We also find gender parity in children’s television when it comes to screen time and speaking time. Female characters received

55.3% of the screen time and 50.3% of the speaking time in the most popular children’s television programs of 2018.

Although we find gender parity in leading roles in children’s television, it has not been achieved when it comes to supporting and minor characters. In 2018, 43.1% of supporting characters were female and 56.9% were male. The gender gap is even larger with minor characters, with men outnumbering women two-to-one (65.0% compared to 34.9%).

Age

Previous studies find that older women are generally erased in entertainment media; that older male characters are represented more often and in a more positive manner than older female characters,³ and leading men often work past the age of forty, but this is rare for leading ladies.⁴ We find an age bias for women in children’s television.

Female characters are more likely than male characters to be shown in their teens (29.9% compared to 21.8%). In contrast, male characters are more likely to be shown in their 30s (14.2% compared to 10.7%), 40s (13.0% compared to 9.6%), and 50s (4.9% compared to 2.9%). Nearly two-thirds of female characters are under the age of twenty (60.3%), and only 15.2% are over the age of 40.

Gender Stereotypes

Sexualization occurs when a person’s value is primarily derived from their sexual appeal, when physical beauty is equated with sexiness, when sexuality is inappropriately imposed on someone, or when a person is sexually objectified.⁵ Sexual objectification refers to the process of treating someone like a sexual object, such as by focusing in on sexualized parts of someone’s body.

We measure sexualization through revealing clothing, degree of nudity, and visual/verbal objectification. Visual objectification occurs when the camera focuses on specific body parts, pans up and the down the character's body, or when slow motion is used to accentuate the body in a sexual manner. In contrast, verbal objectification includes cat calling and making comments about a person's physical appearance. We find gender differences in sexualization across the board in children's television.

Female characters are seven times more likely to be shown in revealing clothing than male characters (8.9% compared to 1.2%). Female characters are more likely to be shown as partially nude than male characters (3.8% compared to 1.0%), visually objectified (1.6% compared to 0.4%), and verbally objectified (2.0% compared to 0.4%).

We also examined characteristics that are typically associated with masculinity—factors such as violence and criminality.⁶ Male characters in children's television are more likely than female characters to be depicted as violent (13.5% compared to 8.0%), and twice as likely to be shown as criminal (10.4% compared to 5.0%).

When it comes to how male and female characters are represented, we find that children's television reinforces gender stereotypes of women as sex objects and men as violent.

Occupation and Leadership

We also assessed character occupational status and leadership. A character is considered to be a leader if others followed their behavior and/or directives. Leaders could occupy formal positions of power in corporations, politics, criminal organizations, or the military, or more informal positions of power, serving as leaders in social groups.

In children's television, female and male characters are equally likely to be shown as having an occupation or being in a science, technology, engineering, or math (STEM) field (3.5% and 3.6%, respectively). This means that although few characters in children's programming are shown in a STEM profession, viewers are equally likely to see men and women in these occupations.

Another positive finding is that while a stark gender gap exists in corporation and political leadership in the real world, a leadership gender gap is not present in children's television. In fact, female characters are more likely to be depicted as leaders than male characters (45.5% compared to 41.4%).

Character Traits

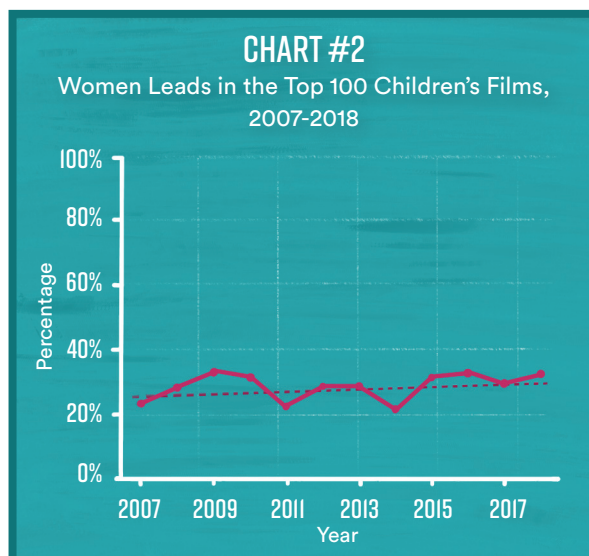
We also examined differences in how character traits are presented in children's television. We find that female characters are more likely to be depicted as intelligent than male characters (50.0% compared to 41.4%), which defies stereotypes of men as the primary possessors of knowledge in U.S. society.

When it comes to humor, a majority of characters in children's programming are shown as funny. However, a gender gap exists. Male characters are significantly more likely to be portrayed as funny than female characters (69.1% compared to 59.4%), which reinforces the societal bias that women are simply less funny.

CHILDREN'S FILMS

Prominence

When it comes to leading characters, male characters outnumber female leads two-to-one in the top 100 grossing children's films (67.2% compared to 32.8%).⁷



As shown in Chart 2, we see the number of female leads fluctuate in children's films from 2007 to 2018, but the trend is upward, meaning

that more women were cast in leading roles by the end of the decade than the start of the decade. In 2007, 23.8% of leads were women compared to 32.0% in 2018.

A two-to-one male advantage is consistently found with characters overall (67.2% compared to 32.0%), supporting characters (61.2% compared to 38.4%), and minor characters (66.5% compared to 33.1%).⁸ The same gap is also found with screen time and speaking time, with female characters speaking 36.6% of the time and appearing on screen 39.8% of the time.

Age

In 2018 children's films, female characters are more likely to be depicted in their teens than male characters (13.0% compared to 6.9%). In contrast, male characters are more likely to be portrayed in their 40s (23.4% compared to 17.4%) and 50s (15.5% compared to 5.9%) than female characters. The majority of female characters are under the age of 39 (62.2%), while 30.4% are over the age of 40.

Stereotypes

Objectification and sexualization are particularly prevalent in 2018 children's films. Women are six times more likely than men to be shown in revealing clothing (26.9% compared to 4.5%), and twice as likely to be shown partially nude (15.6% compared to 7.3%). Visual objectification occurred among 14.2% of female characters (compared to 1.0% of male characters), and verbal objectification was four times more common for female characters than male characters (11.7% compared to 2.8%).

We also examined characteristics that are typically associated with masculinity.⁹ In children's films, male characters are more likely to be shown as violent (34.3%) than female characters (18.6%). Male characters are also more likely than women to be shown as criminal (20.3% compared to 13.7%), and more likely to die in the film (15.8% compared to 10.3%). Male characters are also more likely to be shown working in the military (11.2% compared to 3.9%).

Work and Leadership

In children's films, male characters are more likely than female characters to be shown with an occupation (93.5% compared to 84.8%). Male characters are also more likely to be shown in positions of leadership than female

characters (57.1% compared to 46.5%). Female and male characters are equally likely to be depicted in STEM professions.

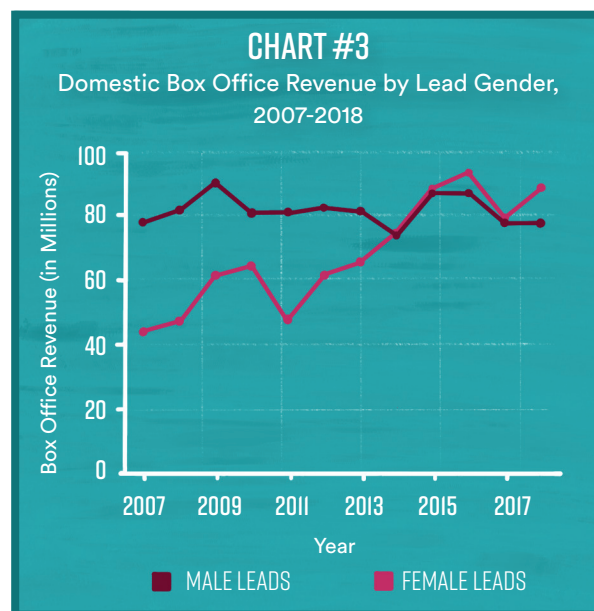
Character Traits

In children's films, female characters are more likely to be shown as intelligent than male characters (54.3% compared to 43.5%). We find no gender differences in humor.

Domestic Box Office

On average, male-led children's films grossed \$89,528,441 compared to \$78,619,159 for films with female leads. Children's films with male and female co-leads grossed the most—\$145,818,588.

As shown in Chart 3, children's films with male leads used to gross significantly more than children's films with female leads, but this gender gap closed in 2014 and has fluctuated since.



POPULAR FILMS

Prominence

With respect to leads and co-leads, 60.9% are male and 39.1% are female. The gender gap is most notable in supporting characters (64.7% male compared to 35.0% female) and minor characters (68.0% male compared to 31.5% female). In the top-grossing popular films, female characters make up 36.2% of speaking time and 39.0% of screen time.

Age

Female characters are more likely to be depicted

in their teens (10.3% compared to 5.7%) and 20s (19.1% compared to 12.2%). In contrast, male characters are more likely to be portrayed in their 40s (24.9% compared to 17.0%) and 50s (15.1% compared to 6.4%). The majority of female characters are under the age of 39 (59.8%), and only 31.6% are over the age of 40.

Stereotypes

Objectification and sexualization in the top-grossing films looks similar to the pattern found in children's films. In popular films, female characters are six times more likely than male characters to be shown in revealing clothing (27.3% compared to 4.6%), and twice as likely to be shown partially nude (18.8% compared to 8.8%).

Visual objectification is far more common among female characters than male characters (11.6% compared to 1.3%), and verbal objectification is more than three times more common for female characters than male characters (13.4% compared to 3.8%). Female characters are also more likely to be shown as prostitutes (1.8%) compared to male characters (0.0%).

Female characters in the top films are equally likely to be shown in revealing clothing as female characters in children's films, and three times more often than female characters in children's television. When it comes to ratings, female characters in rated-R (30.8%) and rated PG-13 (29.6%) films are twice as likely to be shown in revealing clothing than female characters in rated-PG films (14.5%).

When it comes to stereotypes associated with men, in the top-grossing films, male characters are more likely to be shown as violent (44.0%) than female characters (24.5%). Male characters are also more likely than women to be shown as criminal (29.9% compared to 17.0%), as well as more likely to die (20.5% compared to 11.9%). Male characters are more likely to be shown working in the military (8.5% compared to 2.8%) and in criminal occupations (e.g., trafficker, bank robber).

Work and Leadership

In the top 100 films, male characters are more likely to be shown with an occupation (94.3% compared to 84.3%). They are also more likely to be shown in positions of leadership (53.6% compared to 46.1%). Female and male

characters are equally likely to be depicted in STEM professions.

Character Traits

In the most popular films, female characters are more likely to be shown as intelligent than male characters (54.6% compared to 43.8%). We found no gender differences in humor.

Domestic Box Office

On average, male-led popular films grossed \$106,908,218 compared to \$78,664,394 for films with female leads. Popular films with male and female co-leads grossed the most—\$200,691,000.

RACE/ETHNICITY

In this section, we analyze representations of race/ethnicity in children's television, children's films, and popular films from 2018.

CHILDREN'S TELEVISION

Prominence

People of color constitute 38.0% of the U.S. population,¹⁰ but only 26.1% of leads in children's television. Of the 26.1% of leads who are people of color, 53.1% are Black, 25.4% are Latinx, 14.6% are Asian, 3.9% are Southeast Asian, and 1.5% are of mixed race. Native American and Middle Eastern characters make up less than 1.0% of characters of color (0.8% each). White characters make up 74.0% of leading characters.

The percentage of leads/co-leads of color has steadily increased since 2011. Of supporting characters, 71.0% are white and 29.0% are people of color. A more pronounced race gap is found with minor characters, 78.5% of whom are white compared to 21.5% characters of color.

Even though characters of color are under-represented in leading, supporting, and minor roles, a race gap does not exist when it comes to screen time. Even though there are fewer characters of color included, they receive as much average time on the screen as white characters (48.9% compared to 51.1%).

Stereotypes

When it comes to racial stereotypes in children's

television, we find few differences. Characters of color and white characters are roughly equally likely to be shown as criminals (5.9% compared to 8.9%).

No racial differences exist in portrayals of characters engaging in violence. More white characters are shown as hard working than characters of color (53.9% compared to 49.1%).

Work and Leadership

White characters and characters of color are equally likely to be shown as having an occupation (91.6% and 94.0%, respectively). White characters and characters of color are also about as likely to be shown in STEM careers (3.6% and 5.1%), and in leadership positions (45.2% and 46.6%).

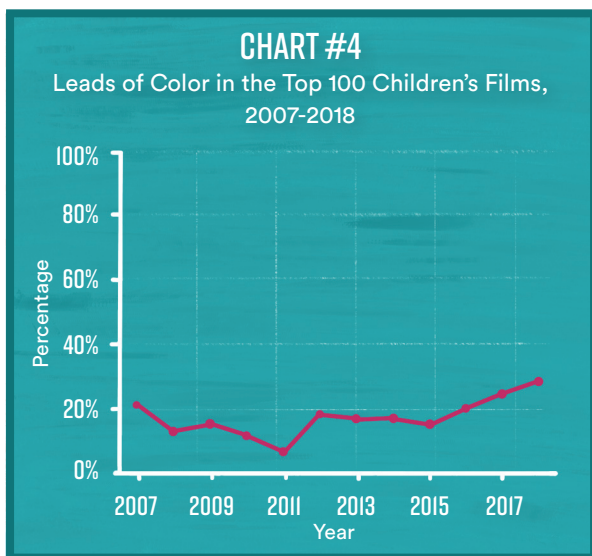
Character Traits

Characters of color are shown as more intelligent than white characters (59.6% compared to 43.2%). White characters are more likely to be portrayed as funny (42.5%) than characters of color (35.0%).

CHILDREN’S FILMS

Prominence

In children’s films, people of color make up 28.8% of all leads, compared to the 71.2% of leads who are white. As shown in Chart 4, this is the highest percentage of leads of color in the last decade.



Of the 28.8% of protagonists who are depicted by people of color, 35.3% are Black, 14.7% are Latinx, 14.7% are Southeast Asian, 11.8% are

Asian, 8.8% are Native American, 5.9% are Middle Eastern, and 5.9% are of mixed race.

Compared to white characters, people of color are also underrepresented in supporting roles (32.9% compared to 67.1%) and as minor characters (33% compared to 67.0%).

Stereotypes

In children’s films, we found no racial differences with regard to common stereotypes.

Work and Leadership

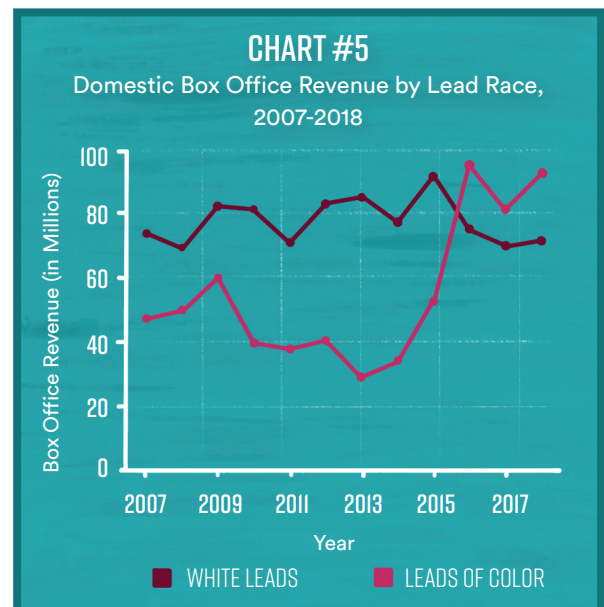
Characters of color are more likely than white characters to be shown with an occupation (94.0% compared to 88.6%). Among characters with an occupation, people of color are more likely to be employed in the military (12.5% compared to 6.8%) and employed in a STEM field (17.9% compared to 12.8%).

Character Traits

In children’s films, characters of color are more likely to be shown as intelligent (56.0% compared to 44.7%), and equally likely as white characters to be shown as funny.

Domestic Box Office

When it comes to box office returns, children’s films with white/people of color co-leads generated the highest revenue— an average of \$232,982,139 compared to \$93,198,124 for films led by characters of color and \$71,784,016 for films with white leads. As shown in Chart 5, 2018 children’s films with leads of color grossed their highest amount of the last decade.



POPULAR FILMS

Prominence

People of color were underrepresented as leads and co-leads in the 100 top-grossing films of 2018. Only 28.0% of leads/co-leads are characters of color compared to 72.0% who are white. Of the 28.0% of protagonists who are depicted by people of color, 63.3% are Black, 13.3% are Asian, 10.0% are Latinx, 10.0% are Native American, and 3.3% are Southeast Asian.

Compared to white characters, people of color were also underrepresented as supporting characters (32.7% compared to 67.3%) and minor characters (34.0% compared to 66.0%).

Stereotypes

Characters of color are more likely to be depicted as hard working (67.6%) compared to their white counterparts (58.7%).

Work and Leadership

White characters are more likely than characters of color to be shown without an occupation (11.3% compared to 6.3%). Characters of color are more likely than white characters to be shown in a criminal occupation (15.5% compared to 10.2%). No differences emerged in STEM careers or leadership by race/ethnicity.

Character Traits

In the top 100 films, characters of color are more likely to be shown as intelligent (59.5% compared to 43.3%) and white characters are more likely to be shown as being of average intelligence (42.6% compared to 33.9%). White characters are more likely to be depicted as funny than characters of color in popular films (42.0% compared to 35.1%).

Box Office

In terms of box office revenue, popular films with white/people of color co-leads generated the highest revenue— an average of \$259,734,613 compared to \$105,008,158 for films led by characters of color and \$100,170,854 for films with white leads.

LGBTQ+

In the U.S., at least 3.4% of people identify as LGBTQ+,¹¹ but are virtually erased in

entertainment media. We analyze representations of LGBTQ+ people in children's television first, followed by children's films and popular films.

CHILDREN'S TELEVISION

Prominence

Of the leading characters on children's television, 99.8% are portrayed as heterosexual. No leading characters are gay, and only one character is shown as bi-sexual.

Similarly, LGBTQ+ characters make up less than 1.0% of supporting and minor characters. Only three transgender characters appeared in the most watched children's programs, and all of these characters are transgender women.

Stereotypes

The LGBTQ+ community has historically been overly sexualized and stereotyped as promiscuous and deviant in media.¹² We find a similar pattern on the top children's television shows. In 2018, LGBTQ+ characters are far more likely than heterosexual characters to be verbally objectified (25.0% compared to 1.1%). LGBTQ+ characters are also more likely to be shown as criminal than heterosexual characters (50.0% compared to 8.5%).

Work and Leadership

LGBTQ+ characters in children's television are more likely to be shown in military (25.0% compared to 3.2%), and criminal (25.0% compared to 3.5%) professions than heterosexual characters. On a positive note, LGBTQ+ characters are equally likely as heterosexual characters to be shown as leaders.

Character Traits

In children's television, LGBTQ+ characters are far more likely to be portrayed as having low intelligence than heterosexual characters (50.0% compared to 6.7%). LGBTQ+ characters are also more likely to be shown performing physical comedy than heterosexual characters (75.0% compared to 22.6%).

CHILDREN'S FILMS

Prominence

In children's films, 95.0% of leading characters are heterosexual, with only two gay leading

characters featured in the top 100 children's films of 2018. LGBTQ+ characters make up 2.3% of supporting characters, and less than 1.0% of all minor characters. Overall, there are three transgender characters, two of whom are transgender men.

Stereotypes

LGBTQ+ characters are more likely than heterosexual characters to be shown in revealing clothing (26.9% compared to 13.1%), as partially nude (34.6% compared to 10.4%), and as promiscuous (11.5% compared to 2.6%).

Work and Leadership

No differences emerged between LGBTQ+ characters and heterosexual characters along occupation or leadership.

Character Traits

When it comes to children's films in 2018, no differences are found in character intelligence by sexuality. However, LGBTQ+ characters are far more likely to be shown as funny than heterosexual characters (57.7% compared to 37.2%).

POPULAR FILMS

Prominence

In the 100 top-grossing films of 2018, 95.6% of leading characters are heterosexual. LGBTQ+ characters make up 2.7% of supporting characters, and 0.6% of all minor characters. Overall, there are four transgender characters, three of whom are transgender women.

Stereotypes

LGBTQ+ characters are more likely than heterosexual characters to be shown in a state of partial nudity (26.7% compared to 12.4%) and as promiscuous (13.3% compared to 3.1%).

Work and Leadership

No differences emerged between LGBTQ+ characters and heterosexual characters in terms of occupation or leadership.

Character Traits

No differences were found in character intelligence by sexuality, but LGBTQ+ characters are more likely to be shown as funny than heterosexual characters (60.0% compared to 40.0%).

DISABILITY

In the U.S., 18.7% of people have a physical, cognitive, or communication disability, but their stories are rarely told in popular entertainment media.¹³ In this section, we present findings on disability representations in children's television, children's films (the top 100-grossing films rated G, PG, and PG-13), and popular films (the top 100-grossing film rated G, PG, PG-13, and R).

CHILDREN'S TELEVISION

Prominence

In terms of leading characters, less than 1.0% are depicted as characters with a physical, communication, or cognitive disability.

CHILDREN'S FILMS

Prominence

In the 100 top-grossing children's films of 2018, 8.1% of characters are shown with a cognitive or physical disability, a significant increase over previous years.¹⁴ Six characters are depicted as physically disabled, three characters have a cognitive difference, and one character has a communication difference.

Stereotypes

In children's films, characters with a disability are more likely than other characters to be rescued (37.3% compared to 22.6%). They are also more likely to die in the film than other characters (33.3% compared to 12.8%). Of those with a disability, 5.2% fit the "super crip" stereotype. The "Super Crip" stereotype is a disabled character who proves their worth by overcoming hardship, or even their impairment, in the face of adversity. This stereotype makes non-disabled viewers feel inspired without interrogating or making changes to the way society treats people with disabilities.

POPULAR FILMS

Prominence

Overall, 0.9% of characters in the 100 top-grossing films are shown with a physical disability, 0.2% are shown with a cognitive disability, and 0.1% are shown with a communication disability.

For leading and co-leading characters, 6.1% are shown with a cognitive or physical disability. Four characters are depicted as physically disabled, two characters have a cognitive disability, and one character has a communication disability.

Stereotypes

Characters with a disability are more likely than characters without a disability to be depicted as violent (50.9% compared to 36.4%) and needing

to be rescued (41.5% compared to 25.9%). Characters with a disability are more likely to die in the most popular films than other characters (41.5% compared to 16.2%). Of characters with a disability, 3.8% fit the “super cripp” stereotype.

CONCLUSION

It is historic that female characters have achieved parity in children’s television programs, as measured by the percentage of leading characters, screen time, and speaking time. The Geena Davis Institute has been actively advocating for inclusion in the children’s television sector for well over a decade, and we played a significant role in bringing about inclusion in children’s content. This finding provides hope that the strides in children’s television can also be achieved in other media as well.

Women, people of color, LGBTQ+ individuals, and people with disabilities are still marginalized in film, and when they are portrayed, it is often in stereotypical ways – as hypersexualized women, as violent men, as promiscuous LGBTQ+ characters, and as people with disabilities who need to be rescued. Content creators could make the representations equitable overnight by making sure that the worlds they are re-creating in children’s films look like the real world in terms of whose stories are told, and by presenting marginalized characters in ways that allow them to be fully human.

HOW TO CITE THIS STUDY:

Giaccardi, Soraya, Heldman, Caroline, Rebecca Cooper, Nathan Cooper-Jones, Meredith Conroy, Patricia Esparza, Ian Breckenridge-Jackson, Linzi Juliano, Ninochka McTaggart, Hannah Phillips, and Rita Seabrook (2019). See Jane 2019 Report. The Geena Davis Institute for Gender in Media.

INTERVENTIONS

We recommend the following actions to improve media representations pertaining to gender, race/ethnicity, sexuality, and ability:

GD-IQ CAN HELP AT EVERY STAGE OF THE PRODUCTION PROCESS TO UNCOVER UNCONSCIOUS GENDER AND RACE BIAS

It is especially important to analyze scripts prior to green lighting to make sure that the cast is gender, race, LGBTQ+, and ability balanced in terms of the number of characters, the prominence of the characters, character screen time, and character speaking time.

DIVERSIFY HIRING IN WRITING AND DIRECTING

Diversity in the writing rooms and director's chair translates into more diversity on the screen,¹⁵ so the problem with representation starts with inequitable hiring practices. Studies show that very few women and people of color are in key decision-making roles, and that there has been no improvement in the last two decades.¹⁶ Studios must truly commit to anti-discrimination in their hiring practices, and set hiring goals to diversify their workforce instead of continuing to pay lip service to being inclusive.

COMMIT DISTRIBUTION AND MARKETING RESOURCES EQUALLY

Another foundational problem with representation on the screen is that films directed by women do not receive the same distribution and marketing resources as films directed by men.¹⁷ Despite this, films written, directed, or starring women enjoy a greater average return on investment. Studios must commit to making more children's films about the lives of women, people of color, LGBTQ+ individuals, and people with disabilities, and ensure that these films reach the widest audience possible by equitably promoting them.

CONSIDER STORIES THAT REFLECT THE BROADER POPULATION, AND FILM AUDIENCES

Gen Z (roughly ages 6 to 21) is the most racially and ethnically diverse group in U.S. history, with nearly half (48.0%) being people of color.¹⁸ Gen Z is also gender fluid, with 52.0% identifying as something other than straight or heterosexual.¹⁹ Content creators must tell authentic stories that are relevant to a changing audience. It is especially important to have diversity with leading characters since plotlines and narratives revolve around their stories.

DIVERSIFY BACKGROUND CHARACTERS

Background characters greatly outnumber prominent, supporting, and minor characters. These characters do not contribute to the central storyline and generally do not speak, but they are important in that they establish who exists in these imaginary worlds. Content creators should aim to cast background characters who are visually diverse in age, gender, race/ethnicity, ability, and sexual orientation.

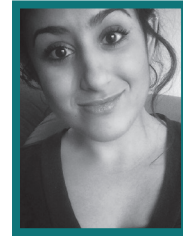
Content creators could make the representation in TV and film equitable overnight by making sure that the fictitious worlds they are creating reflect the real world population, and by presenting marginalized characters in ways that are un-stereotyped and multi-dimensional.

RESEARCH TEAM

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DR. CAROLINE
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SORAYA
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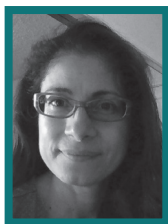
REBECCA
COOPER



DR. IAN
BRECKENRIDGE-JACKSON



DR. MEREDITH
CONROY



DR. PATRICIA
ESPARZA



DR. LINZI
JULIANO



DR. NINOCHKA
MCTAGGART



DR. RITA
SEABROOK



NATHAN
COOPER JONES



HANNAH
PHILLIPS

USC VITERBI SAIL-MICA TEAM



DR. SHRIKANTH
NARAYANAN



DR. NAVEEN
KUMAR



DR. TANAYA
GUHA



KRISHNA
SOMANDEPALLI



ANIL
RAMAKRISHNA



NIKOLAOS
MALANDRAKIS



VICTOR
MARTINEZ



KARAN
SINGLA



RAHUL
SHARMA



RAJAT
HEBBAR



CHLOE
TANLIMCO



DIGBALAY
BOSE



RIMITA
LAHIRI



TIMOTHY
GREER



SABYASACHEE
BARUAH



MING-CHANG
CHIU



JAMIE
FLORES



ALEX
YOUNG

APPENDIX A

The GD-IQ was funded by Google.org. Incorporating Google’s machine learning technology and the University of Southern California’s audio-visual processing technologies, this tool was co-developed by the Institute and led by Dr. Shrikanth (Shri) Narayanan and his team of researchers at the University of Southern California’s Signal Analysis and Interpretation Laboratory (SAIL), along with Dr. Caroline Heldman.

To date, most research investigations of media representations have been done manually. The GD-IQ revolutionizes this approach by using automated analysis, which is not only more precise, but makes it possible for researchers to quickly analyze massive amounts of data, which allows findings to be reported in real time. Additionally, the GD-IQ allows for more accurate analysis, and because the tool is automated, comparisons across data sets and researchers are possible, as is reproducibility. Automated analysis of media content gets around the limitations of human coding. Beyond the significant advantage of being able to efficiently analyze more films in less time, the GD-IQ can also calculate content detail with a level of accuracy that eludes human coders. This is especially true for factors such as screen and speaking time, where near exact precision is possible. Algorithms are a set of rules of calculations that are used in problem-solving. For this report, we employed two automated algorithms that measure screen time by gender and race, and speaking time of characters by their gender. Here is an overview of the procedures we used for each algorithm.

SCREEN TIME ANALYSIS

We compute the screen time of female characters by calculating the ratio of female faces to the total number of faces in the film’s visuals. The screen time is calculated using online face detection and tracking with tools provided by Google’s machine learning technology. In the interest of precision and time, we estimate screen time by computing statistics over face-tracks (boxes tracking the general outline of each face) instead of individual faces. The face-tracks returned by technology include different attributes of the face with the corresponding time of occurrence in the video. Among the attributes returned for each of the detected faces, we use two parameters - the confidence of the detected face and the system’s posterior probability for gender prediction. A threshold of 0.25 was empirically chosen for determining confident face detection.

Due to multiple characters appearing on screen simultaneously, the face-tracks can be overlapping. A gender label is then assigned to each track using the average gender posterior associated with the confident faces in the track. If the average gender posterior probability of the track is greater than 0.5, the track is classified as a “female track,” otherwise, it is a “male track.” The number of frames with confident face detections in each track is summed up across all tracks to get the total number of faces. The number of female tracks is aggregated to get the total number of faces predicted as female. Finally, the screen time is computed as the ratio between the number of female face detections to the total number of face detections across the length of the movie. Supplementary analysis shows that screen time estimated at frame-level (individual faces) instead of using face-tracks was not significantly different and was comparable. Furthermore, computing the average of gender posterior over tracks has an added benefit of “smoothing out” some of the local gender prediction errors. Face-tracking incorporates temporal contiguity information to reduce transient errors in gender prediction that may occur with analyzing individual faces independently. We performed a similar analysis for character race and screen time.

SPEAKING TIME ANALYSIS

Using movie audio, we compute the speaking time of male and female characters to obtain an objective indicator of gender representation. The algorithm for performing this analysis involves automatic voice activity detection, audio segmentation, and gender classification.

VOICE ACTIVITY DETECTION:

Movie audio typically contains many non-speech regions, including sound effects, background music, and silence. The first step is to eliminate non-speech regions from the audio using voice activity detection (VAD) and retain only speech segments. We used a recurrent neural network based VAD algorithm implemented in the open-source toolkit OpenSMILE to isolate speech segments.

SEGMENTATION:

We then break speech segments into smaller sections in order to ensure each segment includes speech from only one speaker. This is performed using an algorithm based on Bayes Information Criterion (BIC), available in the KALDI toolkit. Thirteen dimensional Mel Frequency Cepstral Coefficient (MFCC) features are used for the automatic speaker segmentation. This step essentially decomposes continuous speech segments obtained in the VAD step into smaller segments to make sure no segment contains speech from two different speakers.

GENDER CLASSIFICATION:

The speech segment is then classified into two categories based on whether it was likely spoken by a male or female character. This is accomplished with acoustic feature extraction and feature normalization.

ACOUSTIC FEATURE EXTRACTION:

We use 13-dimensional MFCC features for gender classification because they can be reliably extracted from movie audio, unlike pitch or other high-level features where extraction is made unreliable by the diverse and noisy nature of movie audio.

FEATURE NORMALIZATION:

Feature normalization is deemed necessary to address the issue of variability of speech across different movies and speakers, and to reduce the effect of noise present in the audio channel. Cepstral Mean Normalization (CMN) is a standard technique popular in Automatic Speech Recognition (ASR) and other speech technology applications. Using this method, the cepstral coefficients are linearly transformed to have the same segmental statistics (zero mean). Classification of the speaker as either male or female is based on gender-specific Gaussian mixture models (GMMs) of the acoustic features. These models are trained on a gender-annotated subset of general speech databases used for developing speech technologies using frame-level features for each gender. The GMM we use in this system has 100 mixture components and is optimized by tuning the parameters in a held-out evaluation set. For a new input segment whose gender label is to be predicted, the likelihoods of the segment belonging to a male or female class are computed based on this pre-trained model. The class with higher likelihood is assigned to the segment as the estimated gender prediction. The total speaking time by gender is then computed by adding together the durations for each utterance classified as Male/Female. This gives us the male and female speaking time in a movie.



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