Inequality in 900 Popular Films:
Examining Portrayals of Gender, Race/Ethnicity, LGBT, and Disability from 2007-2016

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with assistance from

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Media, Diversity, & Social Change Initiative

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School for Communication and Journalism

INEQUALITY IN 900 POPULAR FILMS

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THE NEEDLE IS NOT MOVING ON SCREEN FOR FEMALES IN FILM

Prevalence of female speaking characters across 900 films, in percentages

Year	%
'07	29.9
'08	32.8
'09	32.8
'10	30.3
'12	28.4
'13	29.2
'14	28.1
'15	31.4
'16	31.4
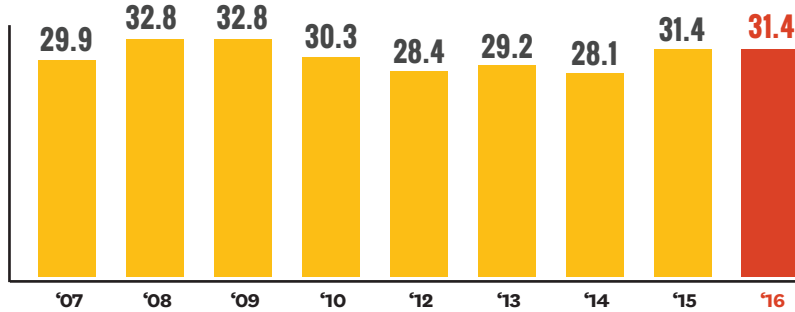
Percentage of 900 films with Balanced Casts **12%**
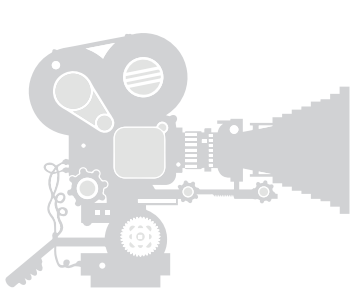
Ratio of males to females **2.3 : 1**

Total number of speaking characters **39,788**

LEADING LADIES RARELY DRIVE THE ACTION IN FILM

Of the 100 top films in 2016...

34 Depicted a **Female Lead** or **Co Lead**

32 films depicted a female lead or co lead in 2015.

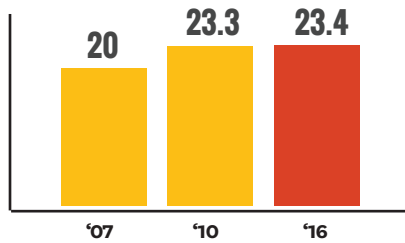And of those Leads and Co Leads*...

3 Female actors were from **underrepresented racial / ethnic groups**
(identical to 2015)

8 Female actors were at least **45 years of age or older**
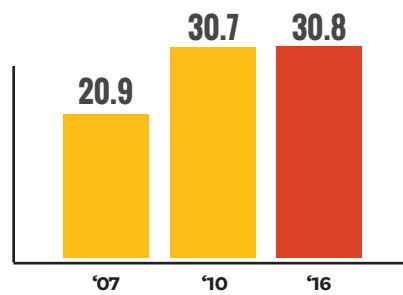*(compared to 5 in 2015)*

*Excludes films w/ensemble casts

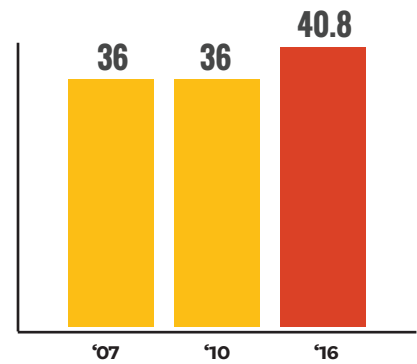## GENDER & FILM GENRE: FUN AND FAST ARE NOT FEMALE

ACTION AND/OR ADVENTURE

Year	%
'07	20
'10	23.3
'16	23.4

% OF FEMALE SPEAKING CHARACTERS

ANIMATION

Year	%
'07	20.9
'10	30.7
'16	30.8

% OF FEMALE SPEAKING CHARACTERS

COMEDY

Year	%
'07	36
'10	36
'16	40.8

% OF FEMALE SPEAKING CHARACTERS

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THE SEXY STEREOTYPE PLAGUES SOME FEMALES IN FILM
Top Films of 2016

	SEXY ATTIRE	SOME NUDITY	ATTRACTIVE
MALES	5.7%	9.2%	3.2%
FEMALES	25.9%	25.6%	10.7%
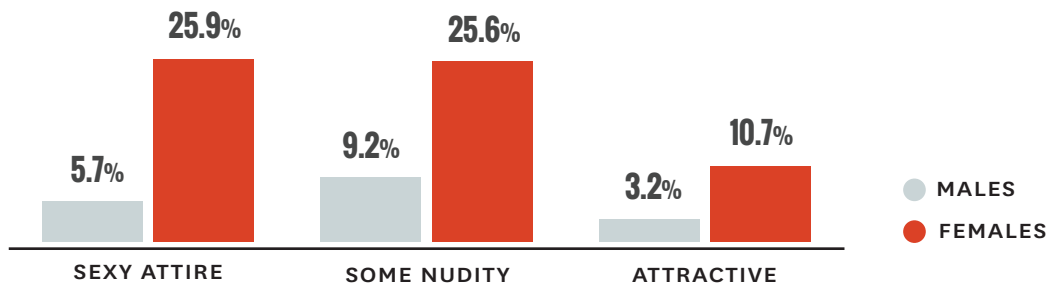
● MALES
● FEMALES

13-20 yr old females are just as likely as 21-39 yr old females to be shown in sexy attire with some nudity, and referenced as attractive.

HOLLYWOOD IS STILL SO WHITE

WHITE 70.8%

BLACK 13.6%

HISPANIC 3.1%

OTHER 7%

ASIAN 5.7%

*The percentages of Black, Hispanic, Asian, and Other characters have not changed since 2007. The percentage of White characters has decreased 6.8%.
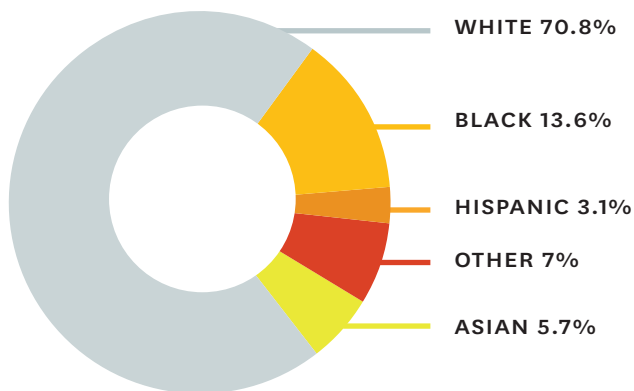
percentage of **under-represented characters**: **29.2%**

25 films have **NO Black or African American** speaking characters

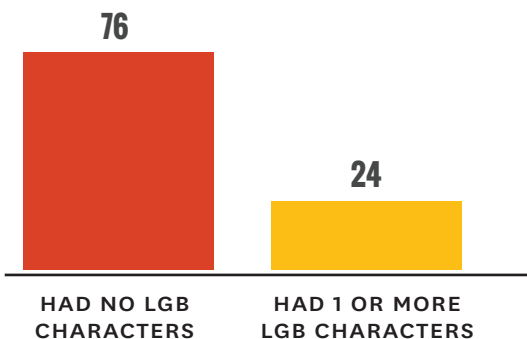**54** films have **NO Latino** speaking characters

44 films have **NO Asian** speaking characters

LGBT CHARACTERS ARE LEFT BEHIND IN FILM

Of **4,544** speaking characters only...

	'14	'15	'16	
	12	19	36	GAY
	4	7	9	LESBIAN

	'14	'15	'16	
	5	5	6	BISEXUAL
	0	1	0	TRANSGENDER

of the 100 top films of 2016...

HAD NO LGB CHARACTERS	HAD 1 OR MORE LGB CHARACTERS
76	24

of the 51 LGBT characters...

WHITE	UNDERREPRESENTED
79.1%	20.9%

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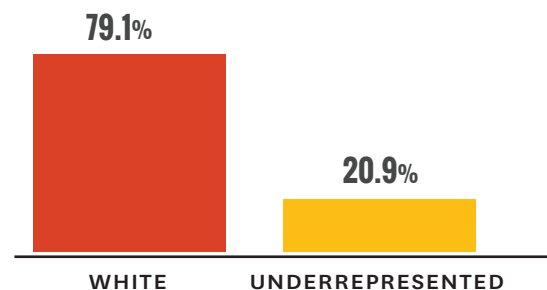
CHARACTERS WITH DISABILITY FACE A DEFICIT ON SCREEN IN FILM

2.7% of all speaking characters were depicted with a disability

64.5% PHYSICAL

31.5% MENTAL

21.8% COMMUNICATIVE

Based on U.S. Census domains

67.7%
32.3%

MALES WITH DISABILITY | FEMALES WITH DISABILITY
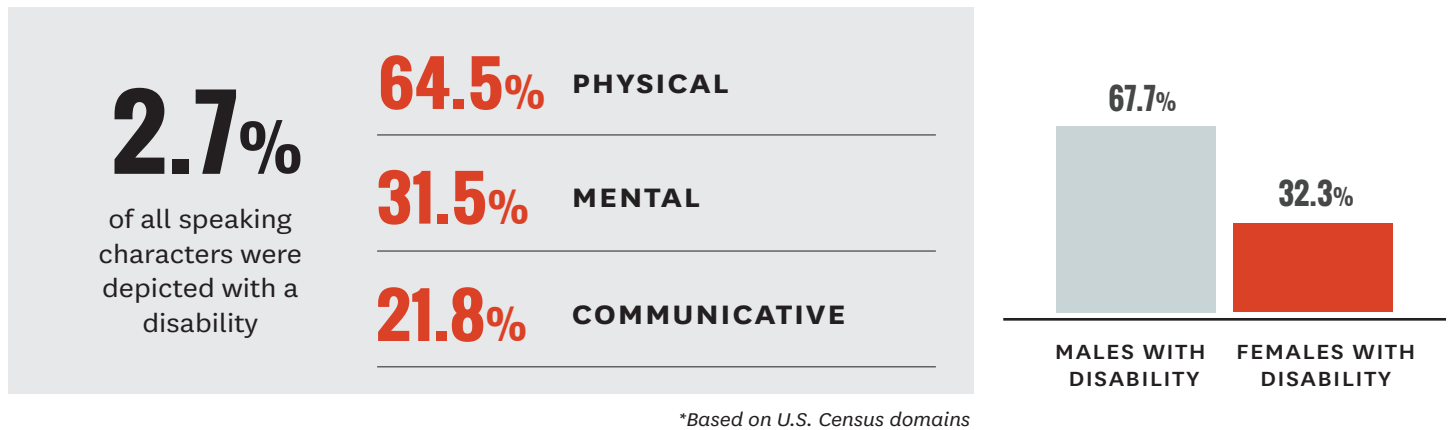
FILM PRODUCTION IS NOT FEMALE FRIENDLY

Across 1,438 content creators....

● MALES ● FEMALES

DIRECTORS
4.2%
5 FEMALE DIRECTORS

WRITERS
13.2%
38 FEMALE WRITERS

PRODUCERS
20.7%
213 FEMALE PRODUCERS

COMPOSERS
1.7%
2 FEMALE COMPOSERS
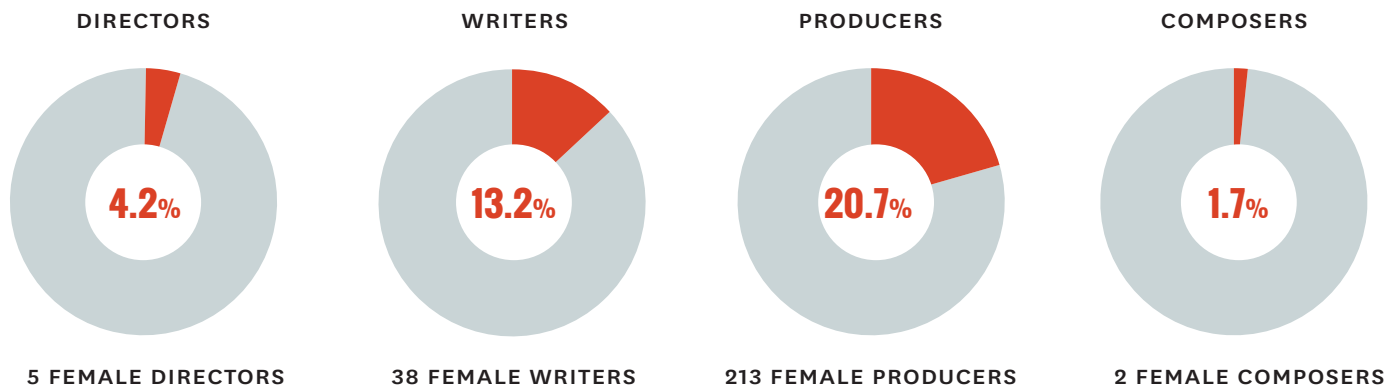
WHEN HOLLYWOOD THINKS DIRECTOR, THEY THINK WHITE MALE
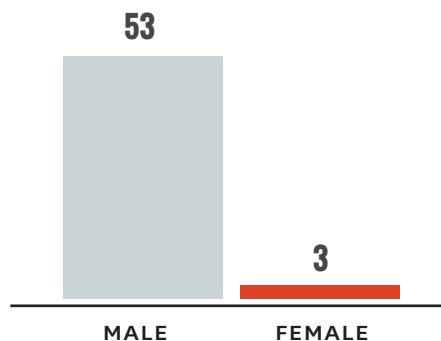
ACROSS 900 FILMS AND 1,006 DIRECTORS...
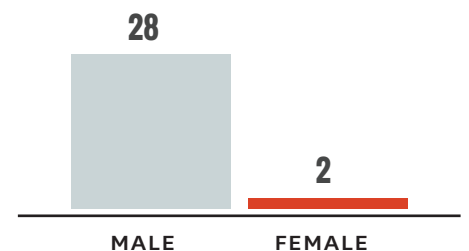
5.6%
OR 56 WERE BLACK OR AFRICAN AMERICAN

3.0%
OR 30 WERE ASIAN OR ASIAN AMERICAN

OF THE 56 BLACK OR AFRICAN AMERICAN DIRECTORS...

53
3
MALE | FEMALE
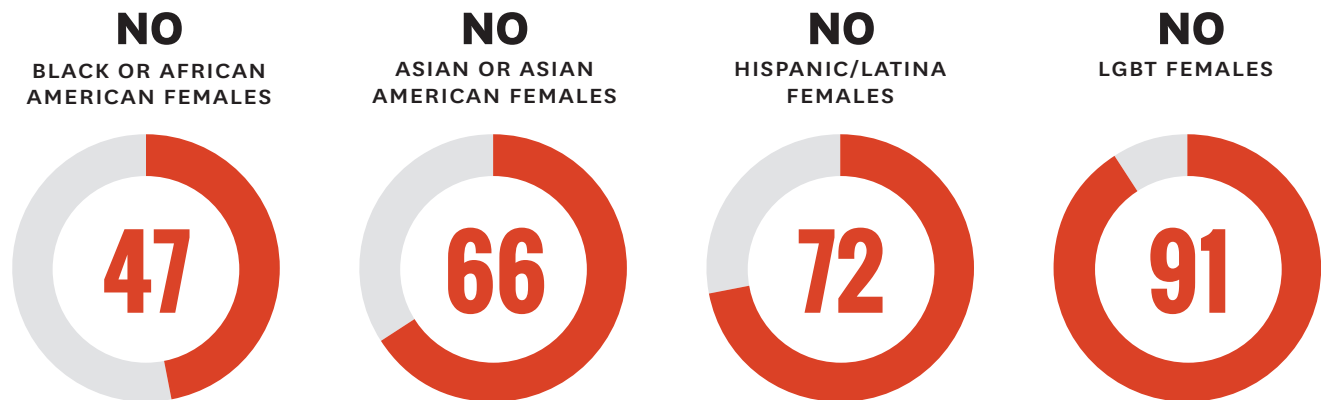
OF THE 30 ASIAN OR ASIAN AMERICAN DIRECTORS...

28
2
MALE | FEMALE

DIRECTORS AND COMPOSERS: FEMALES NEED NOT APPLY

	'07	'08	'09	'10	'12	'13	'14	'15	'16	TOTAL	OVERALL
# OF FEMALE DIRECTORS	3	9	4	3	5	2	2	8	5	41 OUT OF 1,006	4.1%
OUT OF	112	112	111	109	121	107	107	107	120		
# OF FEMALE COMPOSERS	0	2	2	2	2	2	1	1	2	14 OUT OF 998	1.4%
OUT OF	107	108	109	115	105	114	105	114	121		

THE EPIDEMIC OF INVISIBILITY IN FILM

Of the 100 top films of 2016, the number of films with...

NO
BLACK OR AFRICAN AMERICAN FEMALES
47

NO
ASIAN OR ASIAN AMERICAN FEMALES
66

NO
HISPANIC/LATINA FEMALES
72

NO
LGBT FEMALES
91

OUT OF 900 FILMS, ONLY 34 WOMEN WORKED AS DIRECTORS

THERE ARE 34 UNIQUE FEMALE DIRECTORS BETWEEN 2007 AND 2016

(Excluding 2011)

Angelina Jolie	Jennifer Yuh Nelson	Niki Caro
Anne Fletcher	Jessie Nelson	Nora Ephron
Ava DuVernay	Jodie Foster	Patricia Riggen
Betty Thomas	Julie Anne Robinson	Phyllida Lloyd
Brenda Chapman	Julie Taymor	Sam Taylor-Johnson
Catherine Hardwicke	Kathryn Bigelow	Sanaa Hamri
Diane English	Kimberly Peirce	Shari Springer Berman
Elizabeth Allen Rosenbaum	Kirsten Sheridan	Sharon Maguire
Elizabeth Banks	Lana Wachowski	Susanna White
Gina Prince-Bythewood	Lilly Wachowski	Thea Sharrock
Jennifer Flackett	Loveleen Tandan	
Jennifer Lee	Nancy Meyers	

PERCENTAGE OF SPEAKING ROLES BY GENDER: JUST ADD FIVE

Add Five Females to Scripts Per Year to Achieve Gender Equality Quickly

68.6%
51.7%
31.4%
48.3%

● MALES
● FEMALES

2016   2017   2018   2019
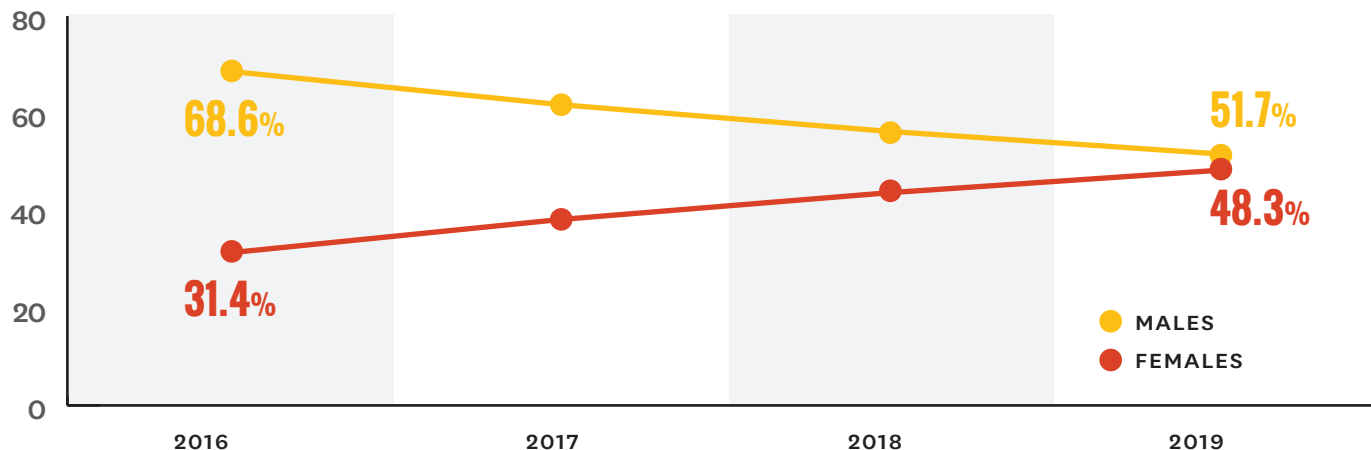
THE INCLUSION CRISIS IN FILM

UNDERSERVED GROUPS IN FILM	FILMS WITHOUT ANY CHARACTERS	PERCENTAGE OF SPEAKING CHARACTERS	U.S. POPULATION	DIFFERENCE (Population-Characters)
FEMALE CHARACTERS	0	31.4%	50.8%	-19.4%
CHARACTERS W/DISABILITIES	38	2.7%	18.7%	-16%
LATINO CHARACTERS	54	3.1%	17.8%	-14.7%
LGBT CHARACTERS	76	1.1%	3.5%	-2.4%
ASIAN CHARACTERS	44	5.7%	5.7%	0
BLACK CHARACTERS	25	13.6%	13.3%	+0.3%

Note: U.S. Census was used for all groups except LGB. That point statistic was from Williams Institute (2011).

STRATEGIC SOLUTIONS TO FOSTER SYSTEMIC CHANGE ON SCREEN & BEHIND THE CAMERA

SET TARGET INCLUSION GOALS   **COMBAT IMPLICIT & EXPLICIT BIAS**   **EQUITY RIDER**

CREATE INCLUSIVE CONSIDERATION LISTS   **JUST ADD FIVE**   **SHAREHOLDER ACTIVISM**

ENSURE ENVIRONMENTS DO NOT TRIGGER STEREOTYPES   **SUPPORT INCLUSIVE FILMS**

Inequality in 900 Popular Films:
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Each year, the Media, Diversity, & Social Change Initiative at USC Annenberg produces a comprehensive report on issues of representation in the film industry. We examine every speaking or named character on screen for gender, race/ethnicity, LGBT, and disability across the 100 top fictional films as determined by U.S. box office from 2007 to 2016 (excluding 2011). Each character is evaluated for demographics, domestic roles, and sexualization indicators. The gendered nature of employment patterns behind the camera (writers, producers, composers) is assessed, with a detailed focus on female, Black, and Asian directors. A total of 900 movies are examined and 39,788 characters. ***This is the most detailed intersectional and longitudinal representational analysis conducted to date***.

Key Findings

Gender. A total of 4,583 speaking characters were assessed for gender across the 100 top fictional films of 2016. A full 68.6% were male and 31.4% were female, which means viewers will see 2.18 males for every 1 female character on screen. The prevalence of female speaking characters has not changed meaningfully across the 9 years evaluated. The difference between 2007 and 2016 is only 1.5%!

Across the 100 top movies of 2016, 34 depicted a female lead/co lead which is not meaningfully different from the percentage in 2015 (32%). Only three movies featured underrepresented female actors as leads or co leads, which is identical to 2015.

Eight of the female leads/co leads were women 45 years of age or older at the time of theatrical release, with only one of these from an underrepresented racial/ethnic group. By way of comparison, 29 movies depicted male leads/co leads in this age bracket. Seven of the male actors 45 years of age or older were diverse. A total of 39 different characters comprised ensemble leads, with 64.1% played by male actors and 35.9% played by female actors.

The percentage of on screen males and females in early childhood and teenage years is roughly equivalent. The gender bias on screen is really driven by the lower percentage of females 21-39 years of age (F=33.4% vs. M=66.6%) and 40 years of age and older (F=25.6% vs. M=74.4%). The percentage of women 40 years of age and older has not meaningfully changed from 2007 (22.1%) to 2016 (25.6%).

Females were much more likely than males to be shown in sexually revealing attire (F=25.9% vs. M=5.7%) and partially or fully naked (F=25.6% vs. M=9.2%). This gender difference extends to attractiveness as well (F=10.7% vs. M=3.2%). Teenage females (13-20 yr olds) were just as likely to be depicted in sexually revealing clothing and with some nudity as young adult females (21-39 yr olds). One positive result is that the percentage of teens shown in sexually revealing clothing and with some nudity is meaningfully lower in 2016 than 2015.
A total of 1,438 content creators worked across the 100 top films of 2016. Only 17.8% of these jobs were filled by women, 82.2% were filled by men. Focusing on directors, 120 helmers were attached to the sample of films with

4.2% (*n*=5) female and 95.8% (*n*=115) male. This is a gender ratio of 23 male directors to every 1 female director. A higher percentage of females worked as writers (13.2%) and producers (20.7%) in 2016.

A mere 4.1% of all directors across the 9 year time frame were females. Examining the female directors since 2007, only 34 women worked one or more times. As a matter of fact, 30 women (88.2%) only had one opportunity to direct across the time frame.

Out of 121 composers in 2016, only 2 (1.7%) were women! Just 14 female composers have worked across the sample of 900 movies, which translates into a gender ratio of 70.3 male composers to every 1 female. Only 9 unique female composers worked one or more times since 2007.

Race/Ethnicity. Of those characters whose race/ethnicity could be ascertained, 70.8% were White, 13.6% Black, 5.7% Asian, 3.1% Hispanic/Latino, 3.4% Middle Eastern, <1% American Indian/Alaskan Native, <1% Native Hawaiian, and 2.7% Mixed Race or Other. In total, 29.2% of all characters were from underrepresented racial/ethnic groups, which is well below U.S. Census (38.7%) as well as the movie going audience in this country (49%).

Films approximating U.S. Census percentages of different racial/ethnic groups are infrequent. In 2016, only 1 movie featured proportional representation of Latinos on screen. A higher percentage of films are representative of Black (19 movies) and Asian (21 movies) characters. It must also be noted that the number of films portraying proportional representation of Black characters has increased (+9%) from 2015 to 2016.

In terms of invisibility, a total of 25 of the 100 top films of 2016 did not feature a single African American or Black speaking character on screen. This is an increase of 8 movies from 2015. A total of 54 films were completely missing Latino speaking characters, which is 14 higher than in 2015. Perhaps the only positive finding is that the number of films without any Asian or Asian American speaking characters decreased from 49 in 2015 to 44 in 2016.

Crossing gender with race/ethnicity reveals that the epidemic of invisibility is alive and well for women of color. Nearly half of all 100 top films of 2016 evaluated were completely missing Black female speaking characters (47 of 100) and two-thirds or more were missing Asian females (66 of 100) and Latinas (72 of 100). In stark contrast, only 11 of the 100 top movies of 2016 were missing White girls/women on screen.

The percentage of underrepresented characters on screen in animation in 2016 (48.5%) has increased substantially from 2010 (+47%) and 2007 (+40.4%). This is also an increase of 35.3% from 2015, when only 13.2% of characters on screen were from underrepresented racial/ethnic groups. Two of the films accounted for 72.9% of all underrepresented characters on screen. Given this additional finding, the increase of underrepresented characters in animation should be interpreted very cautiously. The percentage of underrepresented characters in comedy increased 8.3% from 2010 and 9% from 2007.

Out of the 100 top films of 2016, a total of 14 movies had leads or co leads played by 16 actors from underrepresented racial/ethnic groups. This represents no change from last year. Eleven of the movies depicted underrepresented males and three underrepresented females. The majority of leads (*n*=10) were played by Black actors and three actors were Mixed Race. Just two Asian male actors had leading or co leading roles across the sample and only one Native Hawaiian/Pacific Islander female actor was cast as an animated lead.

The 100 top-grossing films of 2016 featured a total of 120 helmers, of whom 5.8% or 7 were Black or African American. Across the 900 movie sample, only 5.6% (*n*=56) of all directors were Black. Perhaps most disturbingly, only 3 Black women (<1%) have helmed a top-grossing motion picture across the sample. Consequently, no

change has occurred in hiring practices of Black male or Black female directors behind the camera from 2007 to 2016.

A substantially higher percentage of Black characters was found on screen in movies with a Black director (52.4% of speaking characters were Black) than when a non Black director was attached (10.6% of speaking characters were Black).

In 2016, a total of 5 Asian directors (4.2%) worked on the 100 most popular domestic movies. Four of these directors were male and one was female. Across 900 movies, only 3% (*n*=30) of directors were Asian. Almost all of these directors were male except two.

LGBT Characters. Of the 4,544 characters that could be evaluated for apparent sexuality across the 100 top films of 2016, only 51 or 1.1% were Lesbian, Gay, or Bisexual (LGB). The majority of these characters were gay males (*n*=36 or 70.6%), 9 were lesbian (17.6%), and 6 were bisexual (11.8%). Not one character across the 100 top movies of 2016 was coded as transgender!

In comparison to 2014 and 2015 (<1%), there has been no change in the percentage of LGBT characters over time. However, disaggregating the findings reveals one bright spot. There has been an increase in the number of gay males on screen from 2015. No meaningful differences emerged for lesbian or bisexual characters since last year. Transgender characters are almost completely invisible, with only 1 fleeting depiction across 300 popular movies from 2014-2016.

Only 1 film out of the top 100 portrayed a gay protagonist, which was a Black male. In 2014, only two other leads or co leads were coded as LGBT (1 gay White male, 1 bisexual White male). In 2016, 45.1% of LGB characters were depicted in supporting roles and 49% were shown as inconsequential to the plot.

Over three-quarters of the movies (*n*=76) did not portray one LGB character that spoke or was referred to by name on screen. This is lower than the number found in 2015 (82 movies) and substantially lower than 2014 (86). The findings become far more problematic when we focus on females from the LGBT community. A full 91 of the 100 top films failed to depict one female lesbian or bisexual character, which is lower than 2014 (96 movies) but no different than 2015 (93 movies).

Of the LGBT characters, 76.5% were male and 23.5% were female. Of those characters with enough cues for race/ethnicity to be ascertained, the majority of LGB were White (79.1%) and 20.9% were underrepresented. Finally, almost all of the LGB characters were 21-39 years of age (58.8%) or 40 years of age or older (35.3%).

Only 25% or 6 of the LGB characters with enough cues to evaluate this measure were shown as parents in the 2016 sample. Three parents were male and 3 were female, only 2 were underrepresented. Turning to relational standing, roughly half (51.4%) of the characters assessed for this measure were shown in a romantic relationship. Only 4 were depicted as married.

Disability. Across the 100 top-grossing movies of 2016, just 2.7% of characters (*n*=124) were depicted with a disability. This approximates our findings from 2015 (2.4%, or 105 portrayals).

Examining visibility, a total of 38 films across the top 100 did not include a single character with a disability. This is a decrease from 2015 (45 films). Seventy movies failed to depict at least one female character with a disability, compared to 84 movies in 2015. Only one movie in 2016 depicted characters with disabilities in proportion to the 18.7% of the U.S. population considered to have a disability.

A total of 15 films featured a lead or co lead character portrayed with a disability. Male leads/co leads with disabilities appeared more often than female leads/co leads. Not one lead or co lead character with a disability was from an underrepresented racial/ethnic group or the LGBT community.

In terms of domains, 64.5% of characters were coded with a physical disability (i.e., nerve damage, missing limbs, leprosy, cancer), 31.5% with a mental disability (i.e., Post-Traumatic Stress Disorder (PTSD), memory loss, and anxiety), and 21.8% with a communicative disability (i.e., blind, deaf, speech impediments). As characters could be coded into more than one of the domains, these totals do not add to 100%.

Less than a third (32.3%) of characters with disabilities were female, while 67.7% were male. This represents an increase from 2015 in the percentage of female characters (19%) with disabilities. Three-quarters (74.5%) of characters with disabilities were White, while 25.5% were from underrepresented racial/ethnic groups. Only one LGBT character was depicted with a disability across the sample. Half (50.4%) of the characters shown with a disability were 40 years of age or older, which is fewer than the percentage in 2015 (59%). Of characters with a disability in 2016, 8.9% were children age 12 or under.

 Solutions. In order to truly move the needle, strategic solutions must be adopted. We propose multiple ideas for companies, content creators, industry executives, and consumers.

Companies must *set target inclusion goals* and measure their progress toward attaining them. By setting transparent goals, companies also demonstrate that there is a value for stories, casting, and storytellers that reflect the audience. As a part of their goal-setting, companies can *create inclusive consideration lists* when hiring directors or other behind-the-scenes roles. Film schools and film festivals can also set benchmarks for inclusion that help bolster the pipeline for diverse talent. These institutions can set inclusion objectives related to the programmers, faculty, or board members.

Efforts must be made in spaces where learning, pitching, and work occurs *to ensure environments do not trigger stereotypes*. Addressing inequality also means *combatting explicit and implicit biases*. Two solutions address these biases in casting small parts and background roles. One way to address the lack of diversity is for content creators to *just add five* female speaking characters to every film. This would increase yearly the percentage of female characters on screen. This new percentage, when built upon each year, will lead to equality on screen in a mere three years.

Another solution is for high-profile talent to add an *equity clause* to their contract. Devised by Dr. Stacy L. Smith and developed with civil rights attorney Kalpana Kotagal, the clause specifies a more equitable process for auditioning and casting on-screen talent and interviewing and hiring for behind-the-camera jobs.

Lastly, consumers can *support content* that is driven by or features females, underrepresented groups, LGBT individuals, and people with disabilities. Further, *shareholders* can influence companies to do more to create inclusive content by demanding transparency, accountability, and ultimately, diversity in the products these corporations create and sell.

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In addition to examining on screen portrayals, the gender of key personnel behind the camera is evaluated. The analyses capture the frequency of male and female directors, writers, producers, and composers. We also drill down and examine the percentage and number of Black and Asian directors working across the sample of 900 movies. This assessment is meant to add to the body of research investigating the prevalence of underrepresented racial/ethnic groups working in specific production capacities in Hollywood.[3]

All details of the methodology are outlined in the study's footnotes. This brief is divided into four sections: 1) gender, 2) race and ethnicity, 3) LGBT portrayals, and 4) disability. Across the report, we focus first on trends across the 100 top films of 2016. Then, over time patterns are presented on a select number of targeted measures.

Any time an "n" appears in this report it refers to the sample size across an analysis or within a particular group or cell. When statistical tests are performed, our alpha level is set *a priori* to *p*<.05. Typically, only 5% or greater differences between categories of comparisons (males vs. females) are noted. This approach was taken to ensure we are not making noise about meaningless deviations of only 1-2%. Appendix A lists the 100 top fictional movies of 2016.

Gender On Screen & Behind the Camera in Films

On Screen Prevalence

A total of 4,583 speaking characters were assessed for gender across the 100 top fictional films of 2016. A full 68.6% were male (*n*=3,142) and 31.4% were female (*n*=1,441). In other words, viewers will see 2.18 males for every 1 female character on screen. As illuminated in Table 1, the

prevalence of female speaking characters is identical to 2015 and has not changed meaningfully across the 9 years evaluated. Matter of fact, the difference between 2007 and 2016 is only 1.5%!

Table 1
Prevalence of Female Characters On Screen by Year: 2007 to 2016

Year	% of Female Characters	% of Balanced Casts	Ratio of Males to Females	Total # of Characters	Total # of Films
2007	29.9%	12%	2.35 to 1	4,379	100
2008	32.8%	15%	2.05 to 1	4,370	100
2009	32.8%	17%	2.05 to 1	4,342	100
2010	30.3%	4%	2.30 to 1	4,153	100
2012	28.4%	6%	2.51 to 1	4,475	100
2013	29.2%	16%	2.43 to 1	4,506	100
2014	28.1%	9%	2.55 to 1	4,610	100
2015	31.4%	18%	2.19 to 1	4,370	100
2016	31.4%	11%	2.18 to 1	4,583	100
Total	30.5%	12%	2.28 to 1	39,788	900

Note: Only fictional films were included in Table 1. In two years, 101 films were included in the sample. The extra films played as double features.

Given the low frequency of female speaking characters, we were interested in the percentage of movies with gender-balanced casts. A gender-balanced cast was one that features girls and/or women in 45%-54.9% of all speaking roles. As shown in Table 1, only 11% of the 100 top movies of 2016 achieved this. Further, 2016 had fewer gender-balanced casts than did 2015   (-7%) or 2007 (-1%). Surely, gender parity on screen in popular motion pictures is the exception and not the rule.

We also examined whether character gender was associated with the Motion Picture Association of America (MPAA) rating and genre. In terms of rating, there was no relationship with gender.[4] A full 32.2% of characters in PG-rated films were female, 30.7% in PG-13 rated films, and 32.2% in R-rated films. It is important to mention that not one of the 100 top movies of 2016 featured a "G" or general audience rating.

Table 2
Prevalence of Female Characters On Screen by Film Genre: 2007, 2010, 2016

	Action or Adventure			Animation			Comedy		
	2007	2010	2016	2007	2010	2016	2007	2010	2016
% of females on screen	20%	23.3%	23.4%	20.9%	30.7%	30.8%	36%	36%	40.8%

Note: Subtracting each cell from 100% yields the percentage of male speaking characters per genre and year.

Focusing on genre, the percentage of female characters appearing in action or adventure films, animated movies, and comedies was evaluated.[5] A few interesting patterns emerge in Table 2. First, action/adventures were the least likely to feature girls/women on screen in 2016 and comedies were the most likely. Second, the percentage of females on screen in animation has increased (9.9%) from 2007 to 2016.

Turning our attention to who drives the action in film, we explored the gender of leading characters and protagonists. Across the 100 top movies of 2016, 91% featured a storyline focused on a sole lead or co lead. Just 9% of the films portrayed ensemble casts. Below, we report on the characteristics of leads/co leads separately from ensembles.

The breakdown of leads/co leads by gender, underrepresented status, and age can be found in Table 3. Across the 100 top movies of 2016, 57 featured a male lead/co lead and 34 depicted a female lead/co lead. In terms of female leads/co leads, the 2016 percentage (34%) is not meaningfully different from the percentage in 2015 (32%). However, the percentage of movies with a female lead or co lead in 2016 was notably higher than the percentage found in 2014 (21%). The lack of female leads is surprising, given that girls and women constitute half of the ticket buyers at the U.S./Canada box office and slightly over half of the population.[6]

Table 3
Leads/Co Leads in Films by Gender, Underrepresented Status, & Age: 2016

Attribute of Leading Characters	Males	Females
# of films w/lead or co lead	57	34
# of films w/UR lead or co lead	11	3
# of films w/lead or co lead 45 yrs of age or older	29	8
# of films w/UR lead or co lead 45 yrs of age or older	7	1

Note: Films with a female lead, co lead, or both were loaded into the "Females" column. Race/ethnicity and age focused on the *actor* not the character. All numbers in the table refer to the frequency of movies with the attribute in question.

For race/ethnicity of leads, we considered the identity of the **actor** rather than the character on screen. This was done so that we can quantify the number and types of opportunities given to

female actors of color. Only three movies featured underrepresented female actors as leads or co leads.[7] It is important to note that the number of films with underrepresented female leads/co leads was identical to 2015. As a point of comparison, 11 movies had male actors from underrepresented racial/ethnic groups in the leading or co leading role (see Table 3).

The age of leading ladies at the time of theatrical release was considered to determine which female leads/co leads were 45 years of age or older. Eight movies met this criterion. The women driving these films were Ellen DeGeneres, Taraji P. Henson, Melissa McCarthy, Nia Vardalos, Meryl Streep, Renée Zellweger, and Tina Fey. 2016 is a slight increase from 2015 (5 total).[8] Only one of these women was from an underrepresented racial/ethnic group. By way of comparison, 29 movies depicted male leads/co leads in this age bracket. Seven of the male actors 45 years of age or older were from underrepresented backgrounds.

Ensemble casts were also assessed for demographic qualities (see Table 4). Similar to the analyses above, we used the actor's age and race/ethnicity to make judgments. Here, however, the analyses focused on the *characters* rather than films. A total of 39 different characters comprised ensemble leads, with 64.1% (*n*=25) played by male actors and 35.9% (*n*=14) played by female actors. Fully 38.5% of ensembles were racially/ethnically diverse, with less than 5% difference between males and females on this measure.

Table 4
Ensemble Casts by Gender, Underrepresented Status, & Age: 2016

Attribute of Leading Characters	Males	Females	Total
% of characters in ensemble cast	64.1%	35.9%	100%
% of UR characters in ensemble cast	40% (*n*=10)	35.7% (*n*=5)	38.5% (*n*=15)
% of characters in ensemble cast 45 yrs of age or older	36% (*n*=9)	21.4% (*n*=3)	30.8% (*n*=12)
% of UR characters in ensemble cast 45 yrs of age or older	24% (*n*=6)	7.1% (*n*=1)	17.9% (*n*=7)
Total	25	14	39

Note: Ensembles were reported at the character level. The first row of the table focuses on gender differences. The second through fourth rows feature the percentage of males or females possessing a particular trait. Thus, the second row should be interpreted as 40% of all males in ensemble roles were from underrepresented racial/ethnic groups.

More deviation emerges when age is factored into the analysis. Over a third (36%) of ensemble male actors were 45 years of age or older but only 21.4% of female actors were. In comparison to underrepresented male actors 45 years of age or older (*n*=6), only one underrepresented female actor 45 years of age or older appeared as a lead in an ensemble across the entire sample of films. When ensemble casts as well as leads/co leads are taken together, the results of this study show that only 2 underrepresented leading ladies 45 years of age or older at the time of theatrical release graced the silver screen last year. Both of those women were Black.

The findings in this section reveal three major trends. First, there has been **no change** in the percentage of female leads/co leads or speaking characters from last year to this year. The percentage of movies with underrepresented female leads is identical across the last two years. Second, the percentage of movies with gender-balanced casts has **decreased** from 2015 to 2016. Third, action adventure movies have the **lowest** percentage of female speaking characters on screen of the three genres evaluated and comedies have the **highest**.

On Screen Portrayal

Three contested areas of gender stereotyping on screen pertain to domestic roles, ageism, and sexualization. As such, we assessed how gender related to these three portrayal types. Of those characters that had enough information for domestic roles to be evaluated, a significant association between parental status and gender emerged.[9] Females (47.3%) were more likely than males (34.1%) to be shown as parents or caregivers. A similar association appeared between relational standing and gender, with females (50.7%) more likely to be portrayed in a romantic relationship than males (39.8%).[10] These findings are problematic, as exposure to traditional sex-roles in media may play a role in developing or strengthening explicit or implicit stereotypical attitudes, aspirations, and behaviors.[11]

Table 5
Character Gender by Age in Top Grossing Films: 2016

Gender	Children 0-12 yrs	Teens 13-20 yrs	Young Adult 21-39 yrs	Adults 40 yrs or Older
Males	50.7%	51.8%	66.6%	74.4%
Females	49.3%	48.2%	33.4%	25.6%
Ratio	1.03 to 1	1.07 to 1	1.99 to 1	2.9 to 1

Note: Column percentages sum to 100%.

Turning to age, the percentage of males and females within four specific age groups was assessed: children (0-12 years), teens (13-20 years), young adults (21-39 years), and middle age/elderly (40 years and above). An analysis revealed that age was related to gender.[12] As depicted in Table 5, the percentage of on screen males and females in early childhood and teenage years is roughly equivalent. The gender bias on screen is really driven by the lower percentage of females 21-39 years of age (33.4%) and 40 years of age and older (25.6%).

Given how few women were shown on screen 40 years of age and older across the 100 top films of 2016, we wanted to see if this trend was different from previous years studied. As shown in Table 6, no difference emerged from last year (2015). And, the percentage of women 40 years of age and older has not meaningfully changed (<5%) from 2007 (22.1%) to 2016 (25.6%).
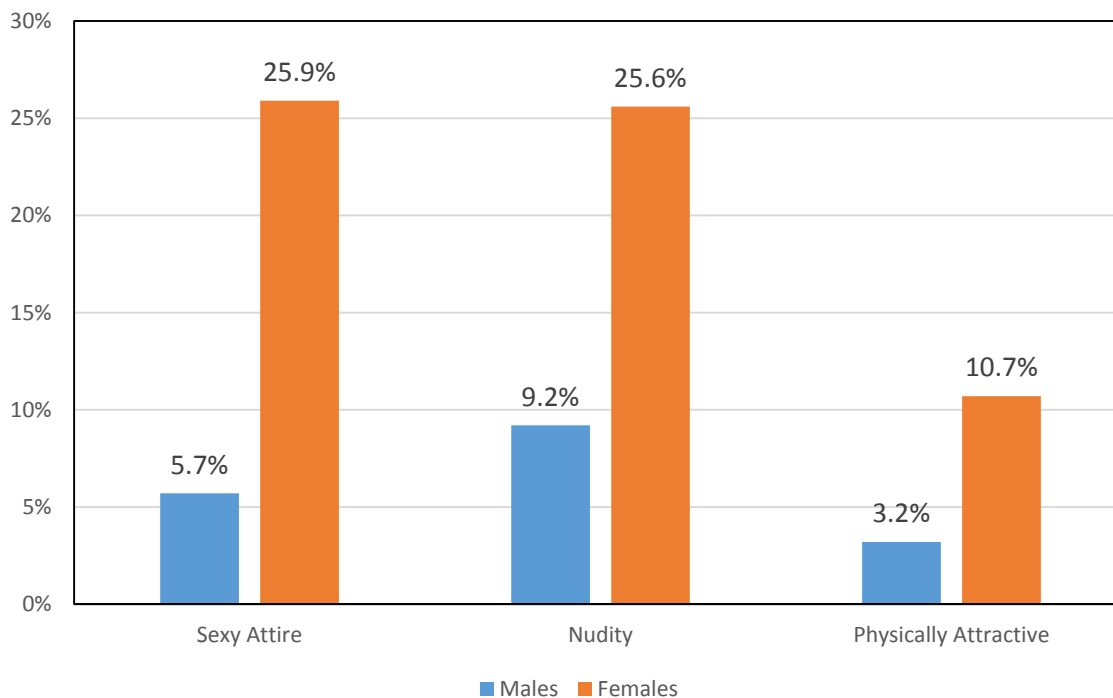
Table 6
Character Gender 40 years of Age and Older: 2007 to 2016

Gender	2007	2008	2009	2010	2012	2013	2014	2015	2016	Total
% of males	77.9%	72.8%	75.6%	78.2%	79.2%	78.4%	79.3%	75.4%	74.4%	76.9%
% of females	22.1%	27.2%	24.4%	21.8%	20.8%	21.6%	20.7%	24.6%	25.6%	23.1%

Note: The analysis in Table 6 includes only characters 40 years of age and older.

Now, we turn our attention to the sexualization of characters in film. Each year, the presence of sexually revealing clothing (no, yes) and nudity (some vs. none) is captured as well as references to physical attractiveness (none vs. one or more). These measures were associated with gender across the 100 top movies of 2016 (see Figure 1).[13] Females were much more likely to be shown in sexually revealing attire (25.9% vs. 5.7%) and partially or fully naked (25.6% vs. 9.2%) than were males. This gender difference extends to attractiveness as well (F=10.7% vs. M=3.2%).[14] Why do these findings matter? Because research has shown that seeing objectifying material can contribute to and/or reinforce self objectification, body shame, and appearance anxiety among some females.[15]

Figure 1
Character Gender by Sexualization Indicators: 2016

To contextualize the patterns found in 2016, the 9-year sample was assessed within gender across the sexualization indicators. For females, Table 7 illuminates that there has been no

substantive change from 2015 or from 2007 on the outcomes of sexually revealing clothing or nudity. In terms of attractiveness, 2016 does not differ from 2015 but is lower than 2007. No differences emerged across the three indicators for males (see Table 8).

Table 7
Sexualization of Female Characters On Screen: 2007 to 2016

Measure	2007	2008	2009	2010	2012	2013	2014	2015	2016
% in sexy attire	27%	25.7%	25.8%	33.8%	31.6%	30.2%	27.9%	30.2%	25.9%
% w/some nudity	21.8%	23.7%	23.6%	30.8%	31%	29.5%	26.4%	29%	25.6%
% referenced attractive	18.5%	15.1%	10.9%	14.7%	Not Measured	13.2%	12.6%	12%	10.7%

Note: Cells for each measure showcase the proportion of females across 100 films. The percentage of female characters for whom the attribute was absent can be found by subtracting from 100%.

Table 8
Sexualization of Male Characters On Screen: 2007 to 2016

Measure	2007	2008	2009	2010	2012	2013	2014	2015	2016
% in sexy attire	4.6%	5.1%	4.7%	7.2%	7%	9.7%	8%	7.7%	5.7%
% w/some nudity	6.6%	8.2%	7.4%	9.4%	9.4%	11.7%	9.1%	9.5%	9.2%
% referenced attractive	5.4%	4.1%	2.5%	3.8%	Not Measured	2.4%	3.1%	3.6%	3.2%

Note: Cells for each measure showcase the proportion of males across 100 films. The percentage of male characters for whom the attribute was absent can be found by subtracting from 100%.

The previous trends focus on gender and sexualization overall. Given the public concern surrounding the hyper sexualization of women and girls,[16] we were interested in how these measures performed across three specific age groups of female characters: teens (13-20 year olds), young adults (21-39 year olds), and middle agers (40-64 year olds). As shown in Table 9, 13-20 year old females were just as likely as their 21-39 year old counterparts to be portrayed in sexy attire, with some nudity, and referenced as attractive.[17] The sexualization of teen and young adult females significantly outpaced that of middle-aged women in terms of sexually revealing clothing and partial nudity. Though not statistically significant, teenage females tended to be referenced as attractive more than middle-age females.

Table 9
Female Character Sexualization by Age: 2016

Measure	13-20 year olds	21-39 year olds	40-64 year olds
% in sexy attire	31.6%	34.2%	19.7%
% w/some nudity	34.7%	33.3%	19.1%
% referenced attractive	14.8%	12.9%	9.2%

Note: Cells for each measure showcase the proportion of females within each age group across 100 films. The percentage of female characters for whom the attribute was absent can be found by subtracting from 100%.

Figures 2 and 3 illuminate the over time trends in the portrayal of females shown in sexy attire and with some nudity across these three age groups. Among teens and middle-aged females, the percentage of those in sexy attire decreased from last year (2015) to this year (2016). Additionally, there was an increase in the percentage of middle-aged females in sexually revealing clothing from 2007 to 2016. For nudity, teens and middle-aged females were less likely to be depicted partially or fully naked in 2016 than in 2015. Yet, an overall increase in exposed skin emerged between 2007 and 2016 for 13-20 year olds and 40-64 year olds.

Figure 2
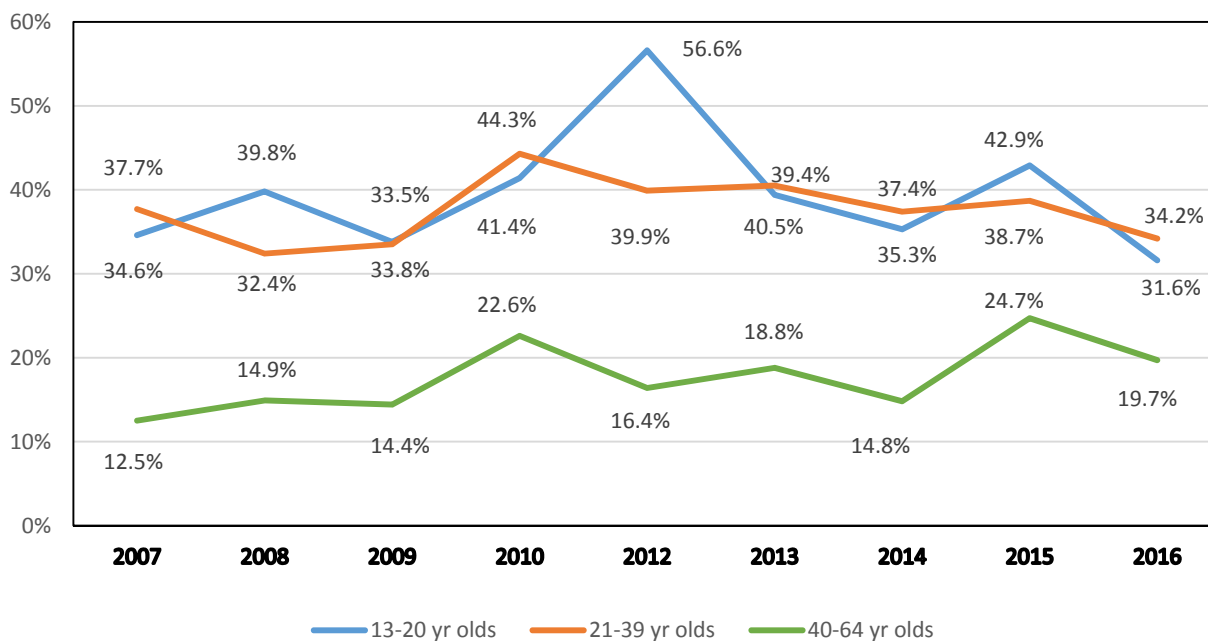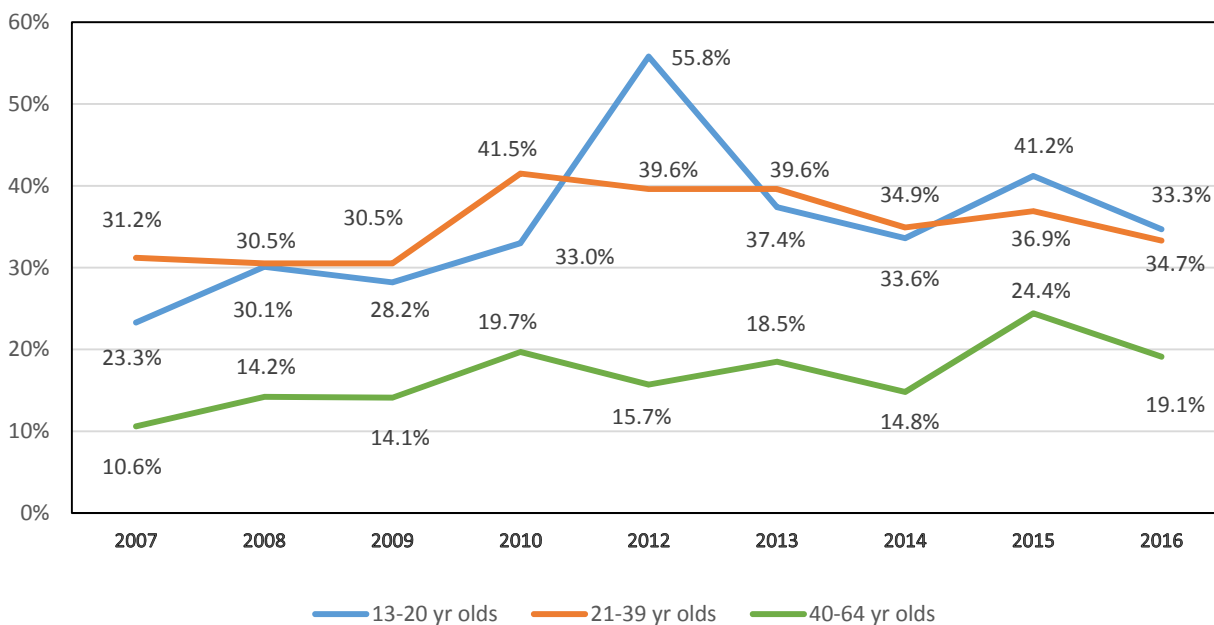Percentages of Females in Sexy Attire by Age: 2007-2016

Figure 3
Percentages of Females with Some Nudity by Age: 2007-2016

Overall, character gender is still linked to traditional stereotypes in popular motion pictures. The findings reveal that portrayals of females were more likely than portrayals of males to be domesticated, young, and sexualized. Our results also suggest that females continue to face a sell-by date on screen, which is roughly 40 years of age. One possible explanation for this hegemony pertains to who is calling the shots behind the camera, which we address in the next section of the report.

Behind the Camera

The directors, writers, and producers of the 100 top-grossing movies of 2016 total 1,438 individuals.[18] The majority (82.2%; *n*=1,182) were male while 17.8% (*n*=256) were female (See Table 10). Focusing on directors, 120 helmers were attached to the sample of films with 4.2% (*n*=5) female and 95.8% (*n*=115) male. *This is a gender ratio of 23 male directors to every 1 female director.*

The 5 female directors included Jennifer Yuh Nelson (*Kung Fu Panda 3*), Patricia Riggen (*Miracles From Heaven*), Thea Sharrock (*Me Before You*), Jodie Foster (*Money Monster*), and Sharon Maguire (*Bridget Jones's Baby*). A higher percentage of females work as writers (13.2%) and producers (20.7%), as shown in Table 10.

Table 10
Content Creators by Gender: 2016

Position	Males	Females	Gender Ratio
Directors	95.8% (*n*=115)	4.2% (*n*=5)	23 to 1
Writers	86.8% (*n*=249)	13.2% (*n*=38)	6.5 to 1
Producers	79.3% (*n*=818)	20.7% (*n*=213)	3.8 to 1
Total	82.2% (*n*=1,182)	17.8% (*n*=256)	4.6 to 1

Only 4.1% of all directors across the 9 year time frame were females (see Table 11). The highest percentage was found in 2008, when 9 females accounted for 8% of all directors. Further, 2016 does not deviate meaningfully from 2015 or any other year in the sample. Examining the female directors since 2007, only 34 worked one or more times. As a matter of fact, 30 women (88.2%) only had one opportunity to direct across the time frame. ***Clearly, there has been no change in the hiring practices of female directors across the sample time frame***.

Table 11
Female Directors: 2007 to 2016

Measures	2007	2008	2009	2010	2012	2013	2014	2015	2016	Total
# of female directors	3	9	4	3	5	2	2	8	5	41
% of female directors	2.7%	8%	3.6%	2.75%	4.1%	1.9%	1.9%	7.5%	4.2%	4.1%
Total	112	112	111	109	121	107	107	107	120	1,006

In 2015, we began looking at the gender of composers as a part of our new Music Coalition at the Media, Diversity, & Social Change Initiative. Out of 121 composers in 2016, only 2 (1.7%) were women! A mere 14 female composers have worked across the sample of 900 movies, which translates into a gender ratio of 70.3 male composers to every 1 female. However, two women (Rachel Portman, Deborah Lurie) worked more than once. Thus, nine women have worked as composers of top-grossing movies since 2007. Similar to directors, there has been no change over time (see Table 12).

Table 12
Female Composers: 2007 to 2016

Measures	2007	2008	2009	2010	2012	2013	2014	2015	2016	Total
# of female composers	0	2	2	2	2	2	1	1	2	14
% of female composers	0	1.8%	1.8%	1.7%	1.9%	1.8%	<1%	<1%	1.7%	1.4%
Total	107	108	109	115	105	114	105	114	121	998

Does content creator gender relate to character gender on screen? We attempt to answer this question here focusing specifically on screenwriters and directors. We bifurcated the sample of

2016 films into those with a female director and those without. Next, we looked at the percentage of girls and women on screen within each category. Movies with and without female screenwriters were treated to the same analysis.

Figure 4
Percentage of Female Characters On Screen by Screenwriter Gender: 2016
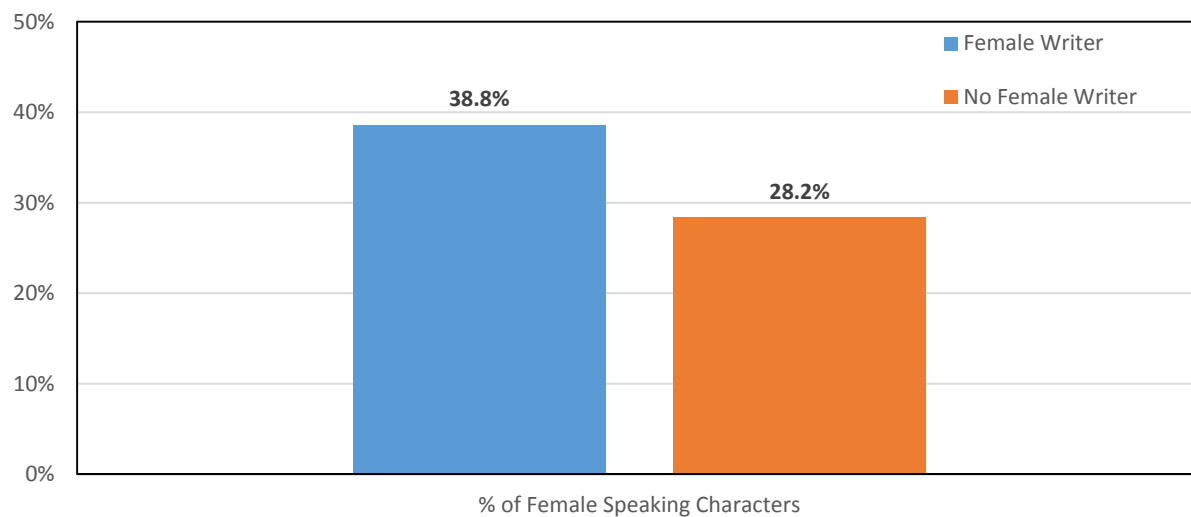
The results revealed no meaningful association between director gender and character gender. Put differently, female-directed movies were no more or less likely to portray girls and women on screen (34.6%) than those movies without a female director (31.3%).[19] For screenwriter gender, however, a different pattern emerged. Screenwriter gender was related significantly to character gender.[20] As shown in Figure 4, the presence of a female writer increased the percentage of girls/women on screen in 2016 by 10.6%.

There are a few different interpretations of these findings. One pertains to writers telling stories akin to the axiom, "write what you know." Thus, one way to increase the prevalence of girls/women on screen would be to hire more female screenwriters. The second explanation is that women writers are attached to developing projects and intellectual property (i.e., books, games, stories) with a female lead or co lead. This latter explanation is problematic, as it seriously hinders women's job prospects given how few female leads or co leads appear across the most financially lucrative films each year.

The percentage of women behind the camera in key production roles in popular movies is abysmal. Women work as producers and writers more than they do as directors or composers. *Despite the increased activism, press attention, and even the pending Equal Employment Opportunity Commission (EEOC) investigation, the needle has not moved for female directors in the film business across the 9 years of content evaluated*. And, as we will see in the next section, females are not the only group facing a representational roadblock in the movie industry. Actors

and content creators of color also experience exclusionary hiring practices on screen and behind the scenes in top-grossing cinematic fare.

Race/Ethnicity On Screen & Behind the Camera in Film

On Screen Prevalence

Of those characters whose race/ethnicity could be ascertained (*n*=3,752), 70.8% were White, 13.6% Black, 5.7% Asian, 3.1% Hispanic/Latino, 3.4% Middle Eastern, <1% American Indian/Alaskan Native, <1% Native Hawaiian, and 2.7% Mixed Race or Other. In total, 29.2% of all characters were from underrepresented racial/ethnic groups. This point statistic is substantially below the percentage of movie tickets purchased by non Caucasians (49%) in the U.S./Canada. It is also less than the percentage of individuals identifying as underrepresented in the U.S. (38.7%).[21]

Because of the concern surrounding #OscarsSoWhite, it is important to monitor whether character portrayals of race/ethnicity are changing over time in Hollywood. No differences emerged from 2015 to 2016 across any of the racial/ethnic groups. Taking a longer view, Table 13 reveals that only the percentage of White characters has decreased (-6.8%) from 2007 to 2016. It is interesting to note that this difference does not hold when comparing White characters in 2016 with those in 2008. *Resultantly, there has been no meaningful change in the percentage of Black/African American, Latino, Asian, or Mixed Race/Other characters across the years evaluated*.

Table 13
Prevalence of Character Race/Ethnicity On Screen by Year: 2007-2016

Year	White	Black	Latino	Asian	Other
2007	77.6%	13.0%	3.3%	3.4%	2.5%
2008	71.2%	13.2%	4.9%	7.1%	3.5%
2009	76.2%	14.7%	2.8%	4.7%	1.5%
2010	77.6%	10.3%	3.9%	5.0%	3.3%
2012	76.3%	10.8%	4.2%	5.0%	3.6%
2013	74.1%	14.1%	4.9%	4.4%	2.5%
2014	73.1%	12.5%	4.9%	5.3%	4.2%
2015	73.7%	12.2%	5.3%	3.9%	4.9%
2016	70.8%	13.6%	3.1%	5.7%	7.0%

Note: Characters in the Other column include those coded Middle Eastern, American Indian/Alaskan Native, Native Hawaiian/Pacific Islander, and Mixed Race. Each row sums to 100%, but may deviate due to rounding.

These statistics are important as they convey sample-wide information about the race/ethnicity of characters in popular films. It is necessary, however, to disaggregate these types of point statistics to understand how diversity distributes across movies. For instance, a small number of

films may feature a large number of underrepresented characters while other movies may depict none. This type of information would be masked when focusing solely on overall percentages.

Because of this, we conducted two additional analyses. First, we were curious about how many films featured proportional representation of different racial/ethnic groups on screen. Proportional representation has been defined in our previous reports as +2% points from U.S. Census. To illustrate, African Americans are 13.3% of the U.S. population. A film would be considered proportionally representative if 11.3%-15.3% (+2) of the entire cast was Black.

Table 14 shows that films approximating U.S. Census percentages are infrequent. In 2016, only 1 movie featured proportional representation of Latinos on screen. A higher percentage of films are representative of Black (19 movies) and Asian (21 movies) characters. It must also be noted that the number of films portraying proportional representation of Black characters has increased (+9%) from 2015 to 2016.

Table 14
Films Focusing on Black, Asian, & Latino Characters: 2015 & 2016

Measure	Black Characters		Latino Characters		Asian Characters	
	2015	2016	2015	2016	2015	2016
# of films w/out characters from specific race/ethnicity	17	25	40	54	49	44
# of films w/proportional representation (+2% Census)	10	19	2	1	18	21
U.S. Census	13.3%		17.8%		5.7%	
Total Films Evaluated	100		100		100	

Note: Cells do not total to 100%. In 2016, a total of 6 films had entire casts of anthropomorphized animals or supernatural creatures. In 2015, a total of 0 films met this criterion.

Second, we were interested in the number of movies devoid of any speaking or named characters from specific racial/ethnic groups. In terms of invisibility, a total of 25 of the 100 top films of 2016 did not feature a single African American or Black speaking character on screen. This is an increase of 8 movies from 2015 (See Table 14). A total of 54 films were completely missing Latino speaking characters, which is 14 higher than in 2015. Perhaps the only positive finding is that the number of films without any Asian or Asian American speaking characters decreased from 49 in 2015 to 44 in 2016. It is important to point out that 6 animated movies did not feature any human characters that could be categorized for race/ethnicity, which deviates from 2015 (0 movies). These are included in the invisibility analysis shown in Table 14.

This year, we took our invisibility analysis one step further. By crossing gender with race/ethnicity, it enabled us to assess how many films were missing females specifically across multiple racial/ethnic categories: White, Black, Asian, and Latino. As shown in Table 15, nearly half of all films evaluated were completely missing Black female speaking characters (*n*=47) and two-thirds or more were missing Asian females (*n*=66) and Latinas (*n*=72). In stark contrast, only

11 of the 100 top movies of 2016 were missing White girls/women on screen. The findings for the 100 top films of 2015 are presented in Table 15 for comparison purposes.

Table 15
Epidemic of Invisibility Facing Females by Race/Ethnicity: 2015-2016

	# of Films w/no White Females	# of Films w/no Black Females	# of Films w/no Latino Females	# of Films w/no Asian Females
2015	3	48	65	70
2016	11	47	72	66

Note: In 2016, a total of 6 films had entire casts of anthropomorphized animals and/or supernatural creatures. In 2015, a total of 0 films met this criterion.

In addition to these prevalence variables, we were interested in how two additional measures relate to character race/ethnicity. The first was genre. Given the small sample sizes of some racial/ethnic groups, we collapsed all non-White characters into a single "underrepresented" category. Then, we examined the percentage of underrepresented characters within three distinct genres. Two notable differences emerged in Table 16.

First, the percentage of underrepresented characters on screen in animation in 2016 (48.5%) has increased substantially from 2010 (+47%) and 2007 (+40.4%). This is also an increase of 35.3% from 2015, when only 13.2% of characters on screen were from underrepresented racial/ethnic groups. Because there were only 12 animated films in the sample, and only 6 had characters that could be evaluated for race/ethnicity, we examined the distribution of underrepresented characters movie by movie to assess where they appeared. Two of the films accounted for 72.9% of all underrepresented characters on screen (i.e., *Moana, Kubo and the Two Strings*). Given this additional finding, the increase of underrepresented characters in animation should be interpreted very cautiously. Additionally, the percentage of underrepresented characters in comedy increased 8.3% from 2010 and 9% from 2007.

Table 16
Prevalence of Underrepresented Characters On Screen by Film Genre: 2007, 2010, 2016

	Action or Adventure			Animation			Comedy		
	2007	2010	2016	2007	2010	2016	2007	2010	2016
% of Under-represented Characters	21.5%	29.7%	26.4%	8.1%	1.5%	48.5%	23.1%	23.8%	32.1%

Note: The percentage of Caucasian speaking characters can be computed by subtracting each cell from 100%.

Beyond genre, the last analysis in this section examined the relationship between characters' race/ethnicity and gender. No statistically significant association emerged.[22] Table 17 shows the percentage of males and females across 5 racial/ethnic groups.

Table 17
Character Race/Ethnicity by Gender in Top-Grossing Films: 2016

Gender	White	Black	Latino	Asian	Other
% of males	68%	65.8%	65.2%	62.3%	67.8%
% of females	32%	34.2%	34.8%	37.7%	32.2%
Ratio	2.12 to 1	1.93 to 1	1.87 to 1	1.65 to 1	2.11 to 1

Moving away from all speaking characters, we now turn our attention to leading characters. Similar to the gender section of the report, we focus on the race/ethnicity of leads/co leads separately from ensemble casts. As noted earlier, our analysis is centered on the ***actor's*** race/ethnicity rather than the character s/he plays on screen.

Out of the 100 top films of 2016, a total of 14 movies had leads or co leads played by actors from underrepresented racial/ethnic groups. This represents no change from last year, when the number was also 14. This is well below the U.S. Census point statistic (38.7%). Eleven of the movies depicted underrepresented males and three underrepresented females. The 14 movies were filled with 16 actors, as two movies featured "co leads."

The majority of leads (*n*=10 or 62.5%) were played by Black actors. Three actors were Mixed Race. Just two Asian male actors had leading or co leading roles across the sample and only one Native Hawaiian/Pacific Islander female actor was cast as a lead.

Turning to ensemble casts, 39 different ***actors*** carried the narratives across these films. Fifteen of these actors were identified online as underrepresented (38.5%), which is directly on point with U.S. Census. Though, the breakdown of roles was captured by only three racial/ethnic groups: 66.7% Black (*n*=10), 20% (*n*=3) Latino, and 13.3% (*n*=2) Mixed Race.

Together, the results in this section reveal that underrepresented characters are still facing an epidemic of invisibility in film. Few live action leading characters were diverse, with no Latinos depicted in leading/co leading roles and only two Asian males. One bright spot is an increase in the percentage of underrepresented characters in animation, though diverse casts in only two movies primarily drove the findings. Now, we take a look at the nature or context of race/ethnicity depicted on screen.

On Screen Portrayal

Here we assess how race/ethnicity may be related to domesticity and the sexualization indicators presented above. Gender was separated for all analyses, given the differences revealed earlier. In terms of domesticity, no differences emerged on parental or relational status

by race/ethnicity for male characters.[23] Just over a third (36.4%) of all male characters evaluated on these measures were depicted as parents and 44.6% were portrayed in a romantic relationship.

Focusing on females, parental status was related to race/ethnicity.[24] When compared to Black females (57.1%), Latinas (50%) and White women (46.9%) were less likely and Asian females (73.7%) were more likely to be shown in a caregiving role. Females from "other" racial/ethnic groups were the least likely (29.4%) to be portrayed as parents. No differences emerged in relational status by race/ethnicity, with 52.1% of females evaluated on this variable shown in a romantic relationship.

Table 18
Sexualization of Female Characters by Race/Ethnicity On Screen: 2016

Measures	White	Black	Latino	Asian	Other
% in sexy attire	26.5%	25.9%	25%	8.8%	40.5%
% of w/some nudity	26.4%	25.9%	25%	8.8%	38.1%
% referenced as attractive	10.6%	13.8%	15%	5%	13.1%

Note: Cells for each measure showcase the proportion of females within each racial/ethnic group across 100 films. The percentage of female characters for whom the attribute was absent can be found by subtracting from 100%.

Examining sexualization (see Table 18), females' race/ethnicity was related to sexy attire and nudity but not attractiveness.[25] Females from "other" races/ethnicities were more likely to be shown in sexy attire and with some nudity than White, Black, or Latino females. Asian women, on the other hand, were the least likely to be shown in a sexualized light. For males, however, none of the measures were related to their racial or ethnic grouping.[26]

Table 19
Sexualization of Male Characters by Race/Ethnicity On Screen: 2016

Measures	White	Black	Latino	Asian	Other
% in sexy attire	5.9%	6%	4%	5.3%	3.4%
% of w/some nudity	8.5%	9%	9.3%	6.8%	10.7%
% referenced as attractive	3.6%	3%	1.3%	3.8%	1.7%

Note: Cells for each measure showcase the proportion of males within each racial/ethnic group across 100 films. The percentage of male characters for whom the attribute was absent can be found by subtracting from 100%.

Overall, the portrayal of characters by race/ethnicity reveals a few troubling trends. Females from "other" racial/ethnic groups were the least likely to be depicted as parents and the most likely to be shown in a sexualized light. This admixture potentially reflects the "exotic" profile of mixed race or "othered" women, a tired trope criticized across decades of motion picture content.[27] Little deviation on the measures evaluated occurred for male characters by

race/ethnicity, however. In the next section of the report, we move beyond character diversity to assess who gets to call action behind the camera in popular films.

Behind the Camera

Our yearly report includes an analysis of Black and Asian directors working behind the camera in popular movies. The 100 top-grossing films of 2016 featured a total of 120 helmers, of whom 5.8% or 7 were Black or African American. The seven included: Antoine Fuqua (*The Magnificent Seven*), Tim Story (*Ride Along 2*), Tyler Perry (*Boo! A Madea Halloween*), Denzel Washington (*Fences*), Malcolm D. Lee (*Barbershop: The Next Cut*), David E. Talbert (*Almost Christmas*), and Barry Jenkins (*Moonlight*). **Clearly, not one of these directors was a Black woman.**

Table 20
Black Directors by Year: 2007-2016

Black Directors	2007	2008	2009	2010	2012	2013	2014	2015	2016	Total
% of male directors	7.1% (*n*=8)	4.5% (*n*=5)	6.3% (*n*=7)	4.6% (*n*=5)	4.9% (*n*=6)	6.5% (*n*=7)	3.7% (*n*=4)	3.7% (*n*=4)	5.8% (*n*=7)	5.3% (*n*=53)
% of female directors	0	1.8% (*n*=2)	0	0	0	0	<1% (*n*=1)	0	0	<1% (*n*=3)
Total	112	112	111	109	121	107	107	107	120	1,006

Over time hiring practices can be found in Table 20. Across 900 movies, only 5.6% (*n*=56) of all directors were Black. Perhaps most disturbingly, only 3 Black women (<1%) have helmed a top-grossing motion picture across the sample. If 2011 was included in the analysis, the number would remain exactly the same. *Consequently, no change has occurred in hiring practices of Black male or Black female directors behind the camera from 2007 to 2016*.

The relationship between Black directors and Black speaking characters on screen was explored. We first separated the films into two silos: those with a Black director attached and those without a Black director attached. Then, the percentage of Black speaking characters in each grouping was assessed. As shown in Figure 5, a substantially higher percentage of Black characters was found on screen in movies with a Black director (52.4% of speaking characters were Black) than when a non Black director was attached (10.6% of speaking characters were Black).[28]

Given that invisibility in film affects females more than males, we examined the relationship between Black directors (no, yes) and Black female characters. A significant association emerged. A substantially higher percentage of Black female characters appear in films with a Black director (21.7%) when compared to the percentage of Black female characters in films without a Black director (3.3%).[29]

Black directors seem to be telling stories that reflect their experiences. Or, Black directors are getting hired on open directing assignments to tell those narratives with Black leads and/or casts. As noted earlier in the report, the latter explanation is problematic, suggesting that hiring practices are tied to the race of leading character(s) and casts. In fact, every film helmed by a Black director in the 2016 sample featured a leading or co leading character or ensemble cast that was Black.

Figure 5
Percentage of Black Characters by Director Race: 2016
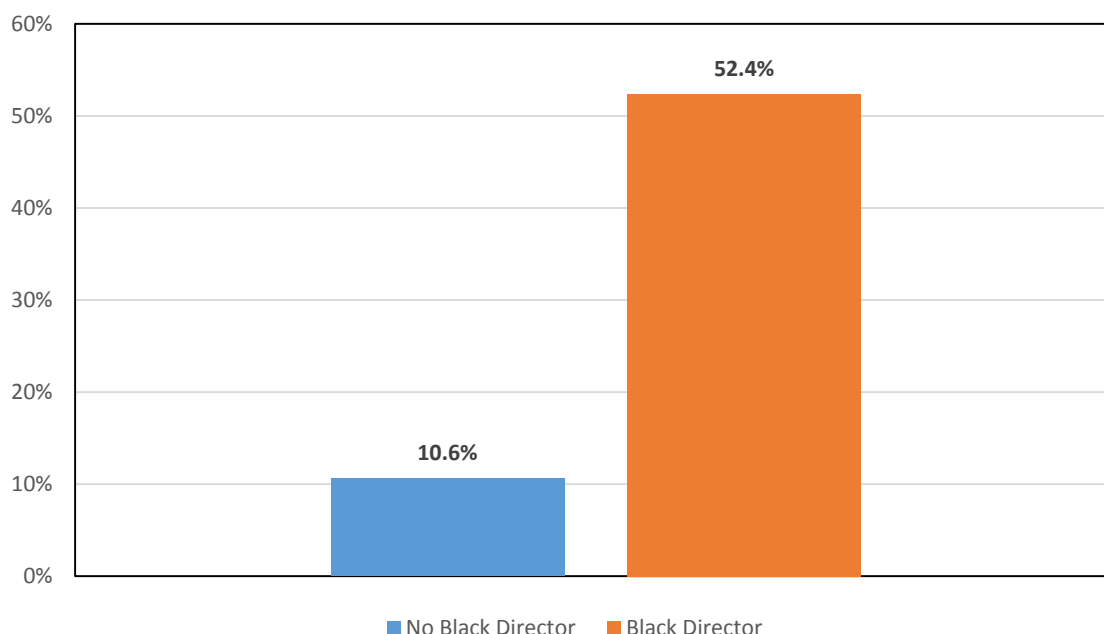
In addition to Black directors, we monitored the number and percentage of Asian helmers working across the 100 top films. In 2016, a total of 5 Asian directors (4.2%) were attached to the most popular domestic movies. Four of these directors were male (i.e., Justin Lin, *Star Trek Beyond*, James Wan, *The Conjuring 2*, Jon M. Chu, *Now You See Me 2*, Galen T. Chu, *Ice Age: Collision Course*) and one was female (Jennifer Yuh Nelson, *Kung Fu Panda 3*).

Table 21
Asian Directors by Year: 2007-2016

Asian Directors	2007	2008	2009	2010	2012	2013	2014	2015	2016	Total
% of male directors	2.7% (*n*=3)	1.8% (*n*=2)	<1% (*n*=1)	3.7% (*n*=4)	1.6% (*n*=2)	5.6% (*n*=6)	0	5.6% (*n*=6)	3.3% (*n*=4)	2.8% (*n*=28)
% of female directors	0	<1% (*n*=1)	0	0	0	0	0	0	<1% (*n*=1)	<1% (*n*=2)
Total	112	112	111	109	121	107	107	107	120	1,006

Over time trends can be found in Table 21. Across 900 movies, only 3% of directors were Asian. Almost all of these directors were male except two. If we add in 2011, the total number of Asian female directors increases to three. Though, Jennifer Yuh Nelson was responsible for helming two movies in the sample, both from the *Kung Fu Panda* franchise.

The findings in this section reveal that few directors of color are getting hired to helm the 100 top movies yearly. Perhaps the group that is most affected behind the camera are women of color, as only 3 Black and 2 Asian women worked across the sample time frame. Though not measured, only one Latina female director worked across the 900 movies. In the next section, we examine the prevalence and portrayal of another group often overlooked in film: the LGBT community.

Lesbian, Gay, Bisexual, & Transgender Characters

Of the 4,544 characters that could be evaluated for apparent sexuality across the 100 top films of 2016, only 51 or 1.1% were Lesbian, Gay, or Bisexual (LGB). Of the 51 characters, the majority were gay males (*n*=36 or 70.6%), 9 were lesbian (17.6%), and 6 were bisexual (11.8%). Because the percentage of individuals identifying as LGB in the U.S. is 3.5%, Hollywood is clearly under representing another group on screen.[30] Further, not one character across the 100 top movies of 2016 was coded as transgender.

Has there been any change in the prevalence of LGB characters over time? Since 2014, we have been cataloguing the frequency and nature of LGBT characters on screen.[31] As shown in Table 22, in comparison to 2014 and 2015 (<1%), there has been no change in the percentage of LGBT characters over time. However, disaggregating the findings reveals one bright spot. There has been an increase in the number of gay males. No meaningful difference emerged for lesbian or bisexual characters over time. Transgender characters are almost completely invisible across the 300 top movies from 2014-2016.

Table 22
LGBT Portrayals: 2014-2016

Sexuality	2014	2015	2016
Lesbian	4	7	9
Gay	12	19	36
Bisexual	5	5	6
Transgender	0	1	0
Total	21	32	51
% of LGBT characters sample-wide	<1%	<1%	1.1%

Turning to leading characters, only 1 film out of the 100 top movies of 2016 portrayed a LGB protagonist (i.e., *Moonlight*). Chiron, a Black gay leading character, was depicted at three distinct age groups across the context of the plot. Looking across 2014 and 2015, only two other

leads or co leads were coded as LGBT. In 2014, *The Imitation Game* featured a White male computer scientist from the U.K. working to break Germany's code in World War 2. That same year, M. Gustave (i.e., the concierge) was coded as bisexual in *The Grand Budapest Hotel*.

Given the scarcity of leading parts, we wanted to see what roles LGBT characters were filling across storylines. In 2016, 45.1% (*n*=23) of LGB characters were depicted in supporting roles and 49% (*n*=25) were shown as inconsequential to the plot. As shown in Table 23, this is a substantial shift from 2015, though in line with the findings in 2014. As for supporting roles, 2016 revealed the highest percentage of LGB characters and 2015 the lowest. 2014 held a middle position.

Table 23
Roles & Visibility of LGBT Characters: 2014-2016

Measures	2014	2015	2016
% of supporting characters	38.1%	28.1%	45.1%
% of inconsequential characters	47.6%	71.9%	49%
# of movies w/no LGBT	86	82	76
# of movies w/no LGBT females	96	93	91

Note: Columns do not total to 100%.

Similar to our focus on race/ethnicity, we conducted an invisibility analysis for LGBT characters (see Table 23). Over three-quarters of the movies (*n*=76) did not portray one LGB character that spoke or was referred to by name on screen. This is lower than the number found in 2015 (82 movies) and substantially lower than 2014 (86 movies). The findings become far more problematic when we focus on females from the LGBT community, as shown in Table 23. A full 91 of the 100 top films failed to depict one female lesbian or bisexual character, which is lower than 2014 (96 movies) but no different than 2015 (93 movies).

All LGB characters were assessed for gender, race/ethnicity, and age. A full 76.5% (*n*=39) were male and 23.5% (*n*=12) were female. The percentage of LGB females is lower than the sample-wide percentage of females (31.4%). Of those characters with enough cues for race/ethnicity to be ascertained, the majority of LGB were White (79.1%) and 20.9% were underrepresented. This latter statistic is 17.8 percentage points below U.S. Census. Finally, almost all of the LGB characters were 21-39 years of age (58.8%) or 40 years of age or older (35.3%). Only 3 LGB characters were 20 years of age or younger. This latter trend is disconcerting, as young LGB males and females in this country are failing to see narratives reflecting their interpersonal experiences on screen.

Despite the fact that most LGB characters are adult in age, few are depicted as parents. Only 25% or 6 of the LGB characters with enough cues to evaluate this measure were shown as caregivers. Of these parental figures, 3 were male and 3 were female, only 2 were underrepresented. All three of the LGB female parents were White. Turning to relational

standing, roughly half (51.4%) of the characters assessed for this measure were shown in a romantic relationship. Only 4 were depicted as married, which is inconsistent with the gains in the U.S. on marriage equality.

Surely, the prevalence and portrayal of LGBT characters reveals a conflicted set of findings. On one hand, the sheer number of roles on screen has increased -- particularly for gay males and those in supporting parts. While this may be a step in the right direction, the percentage of LGB characters is below estimates of LGB in the U.S. and transgender characters were completely missing across the 100 top movies of 2016. Even more disconcerting, few LGB characters were shown across the lifespan, with racial/ethnic diversity, or as parents/caregivers.

Characters with Disabilities in Film

For the second year, the MDSC Initiative assessed characters with disabilities in top-grossing films. Using a modified definition based on the Americans with Disabilities Act (ADA), each character was examined for the presence or absence of a disability.[32] In line with our previous analysis, addiction was not included and supernatural beings (e.g., robots, zombies, etc.) were not allowed to possess a disability. Across the 100 top-grossing movies of 2016, only 2.7% of characters (*n*=124) were depicted with a disability.[33] This approximates our findings from 2015 (2.4%, or 105 portrayals).

Table 24
Films Focusing on Characters with Disabilities: 2015 & 2016

Measure	2015	2016
% of characters w/disabilities	2.4%	2.7%
# of films missing characters w/disabilities	45	38
# of films w/proportional representation (+2% Census)	2	1
U.S. Census	18.7%	18.7%
Total Films Evaluated	100	100

Examining visibility, a total of 38 films across the top 100 did not include a single character with a disability. This is a decrease from 2015, where 45 films were devoid of characters with a disability. Additionally, 70 movies failed to depict at least one female character with a disability, compared to 84 movies in 2015. Only one movie in 2016 depicted characters with disabilities in proportion (+2%) to the 18.7% of the U.S. population considered to have a disability.[34] See Table 24.

We were curious whether characters filling lead and co lead roles were shown with a disability at any point in the film. A total of 15 films featured a lead or co lead character portrayed with a disability. These individuals included those with autism, blindness, depression, and mobility issues, to name a few. Male leads/co leads with disabilities appeared more often than female leads/co leads (see Table 25). Not one lead or co lead character with a disability was from an

underrepresented racial/ethnic group or the LGBT community. The few films that feature leading or co leading characters with a disability align with the trends noted earlier in this report. Namely, White male actors fill these roles.

Table 25
Lead/Co Lead Characters with Disabilities: 2015 & 2016

Measure	2015	2016
# of films with lead/co lead character with disability	10	15
# of films with male lead/co lead character with disability	7	12
# of films with female lead/co lead character with disability	3	3
# of films with UR lead/co lead character with disability	0	0
# of films with LGBT lead/co lead character with disability	0	0

Beyond focusing on leads or co leads, we were also interested in films with ensemble casts driving the story. Of the 9 ensemble films in the sample, three leading characters were depicted with a disability. Two of these individuals were male and one was female. Here, both males were from underrepresented racial/ethnic groups. In comparison to 2015 (54.3%), there were fewer characters with disabilities depicted as supporting cast members in 2016 (48.4%). However, there was no difference in the percentage of inconsequential characters from 2015 (32.4%) to 2016 (31.5%).

Once a character with a disability was identified, the presence or absence of three domains was assessed, consistent with the U.S. Census.[35] Physical disabilities were most common, with 64.5% of characters with a disability in this category. A few examples of the physical disabilities appearing across the sample include, but are not limited to, nerve damage, missing limbs, leprosy, and cancer.

Disabilities in the mental domain were experienced by 31.5% of characters. This domain included Post-Traumatic Stress Disorder (PTSD), memory loss, and anxiety, among others. Finally, disabilities in the communicative domain affected 21.8% of characters. Characters who are blind, deaf, or who experience speech impediments are illustrative of portrayals coded in the communicative domain. As characters could be coded into more than one of the domains, these totals do not add to 100%.

Characters with disabilities were assessed for gender, race/ethnicity, and age. Looking to gender, 32.3% of characters with disabilities were female, while 67.7% were male. This represents an increase from 2015 in the percentage of female characters with disabilities (see Table 26). Three-quarters (74.5%) of characters with disabilities were White, while 25.5% were from underrepresented racial/ethnic groups. Only one LGBT character was depicted with a disability across the sample. Half (50.4%) of the characters shown with a disability were 40 years of age or older, which is fewer than the percentage in 2015 (59%). Of characters with a disability in 2016,

8.9% were children age 12 or under. The demographic picture of characters with disabilities is still distorted in popular movies.

Table 26
Demographic Profile of Characters with Disabilities: 2015 & 2016

Measure	2015	2016
% of male characters w/disabilities	81%	67.7%
% of female characters w/disabilities	19%	32.3%
% of White characters w/disabilities	71.7%	74.5%
% of UR characters w/disabilities	28.3%	25.5%
# of LGB characters w/disabilities	0	1

The results of this analysis on characters with disabilities reveal clear discrepancies between the real world and the "reel world." Although individuals with disabilities represent nearly one-fifth of the U.S. population, a mere 2.7% of characters are depicted with a disability across the 100 most popular movies of 2016. *Thus, stories that reflect the full lives of characters with disabilities and the demographic diversity of this community remain elusive in film.*

Conclusion

Across 900 popular movies from the last decade—including the 100 top-grossing films of 2016—it is clear that exclusion is an entrenched industry practice in Hollywood. Whether in front of or behind the camera, our results on gender, race/ethnicity, the LGBT community and characters with disability demonstrate how far there is to go before inclusion is achieved. Below, the major results of this report are discussed, along with potential solutions and limitations.

Diversity Deficits are Prolonged and Problematic

The longitudinal analysis in this report provides a unique perspective on both the current lack of inclusivity and the historic inequities on screen and in creative roles. *We saw little to no meaningful change in the representation of females, underrepresented racial/ethnic groups, the LGBT community, or characters with disabilities.* Females still fill fewer than 33% of all speaking roles in movies, no matter that girls and women comprise 50% of the U.S. population and 50% of the ticket-buying audience. Looking to other indicators, in terms of certain racial/ethnic groups and characters with disabilities, proportional representation has not been achieved. While we saw an uptick in underrepresented characters in animation, this is primarily due to two movies and is a trend to monitor closely in the years to come. Also, despite a small increase in the number of gay males on screen, there are few LGB, and no transgender characters appearing in the top films of 2016. In other words, last year's top films evidenced minor or no improvement in their depictions of diverse groups.

Examining the stories told in film reveals another facet of exclusion. A mere 34 movies featured a female in the lead or co lead role—and only 3 of these women were from underrepresented racial/ethnic groups. Fourteen films placed an individual from an underrepresented racial/ethnic group at the center. Neither of these figures represents a change from 2015. Only one movie in 2016 had an LGBT character as the focus of the story. Clearly, there is little attempt to create film content that depicts a diverse array of experiences and journeys. For film audiences, this consistent focus on White male leads may present little opportunity to see their own narratives depicted on the big screen.

Exclusion is the Norm, Not the Exception in Hollywood

Moving beyond representation overall, this investigation is the only research report to offer an understanding of the invisibility certain groups face in Hollywood films. To that end, each year the MDSC Initiative examines which movies fail to depict even one speaking or named character who is female, from an underrepresented racial/ethnic group, LGBT, or shown with a disability. The results, outlined in Table 27, expose the degree to which only focusing on sample-wide percentages can mask the absence of different groups across many films. For example, while in the full sample, Black characters are represented in near-proportion to the U.S. population, one-quarter of the movies sampled did not feature *even one* speaking or named character who was Black. These results are not only troubling, but suggest that exclusion is the norm rather than the exception in Hollywood.

Table 27
The Epidemic of Invisibility Across 6 Groups

Underserved Groups in Film	Films w/Out Any Characters	% of Speaking Characters	U.S. Population	Difference (Population-Characters)
Female Characters	0	31.4%	50.8%	-19.4%
Characters w/Disabilities	38	2.7%	18.7%	-16%
Latino Characters	54	3.1%	17.8%	-14.7%
LGBT Characters	76	1.1%	3.5%	-2.4%
Asian Characters	44	5.7%	5.7%	0
Black Characters	25	13.6%	13.3%	+0.3%

Note: U.S. Census was used for all groups except LGB. That point statistic was from Williams Institute (2011).

A second aspect of the invisibility analysis unveiled this year is an examination of how many females from different groups are missing in film. The results reveal that females of color, LGBT females, and females with a disability are distressingly omitted from many top Hollywood movies. Further, these findings demonstrate that *an intersectional perspective is crucial to understanding Hollywood's invisibility crisis.* Simply advocating for more female characters or more characters

from diverse groups does not address the erasure of women of color, LGBT-identified females, or females with disabilities from our popular cultural narratives.

Tired Tropes are a Continuing Trend in Film

In addition to our findings on prevalence, the portrayal of characters in film also remains stationary. Once again, female characters were more likely to be sexualized than their male peers in movies. And, teenage females are just as likely to be depicted in a sexualized light as their middle-aged female counterparts. One positive result is that the percentage of teens shown in sexually revealing clothing and with some nudity is meaningfully lower in 2016 than 2015. The consistent objectification of female characters is more than just wearying. Given the potential effects of objectifying portrayals, it is also worrisome.[36]

These tired trends extend to the depiction of characters from underrepresented racial/ethnic groups. Movies perpetuate the sexualization of women from "other" racial/ethnic groups, even as these female characters are least likely to be shown as parental figures. In contrast, Asian female characters were least likely to be sexualized and most likely to be shown as caregivers. Falling back on these outdated tropes reflects little creativity or forward-thinking among storytellers. Further, the lack of LGBT characters in committed relationships or as parents shows how far film has to go to portray a more realistic picture of reality.

Creative Roles are Restricted in Film

Uniting the findings on the lack of inclusion on screen with data on who works behind the camera tells a powerful story about privilege and its perpetuation in cinema. Less than 20% of the writers, directors, and producers across the 100 top movies of 2016 were female. In particular, the gender ratio of male to female directors still stands at over 20 to 1. There has been no change over the last decade in the percentage of women hired to helm the 100 most popular domestic movies. This inertia extends even further: between 2007 and 2016, only 1.4% of composers were female. The lack of female participation in behind the camera and/or above the line roles continues to stagnate.

Once again, examining these trends intersectionally reveals that in particular, *women of color are the most affected when it comes to Hollywood's refusal to hire female directors.* Only 3 Black women and 2 Asian women have helmed a top-grossing film since 2007. Looking to Latinas, only 1 worked in the 9 years studied. Black and Asian males fare slightly better, but still remain underrepresented in this behind the camera leadership role. We have previously argued, based on our research, that when executives and industry leaders think director, they think male.[37] Given these findings, it would, perhaps, be more accurate to say that when entertainment decision-makers think director, they think *White* male.

Strategic Solutions are Imperative to Fostering Inclusion

The vocal and vociferous advocacy surrounding inclusion in entertainment has brought the issue to the forefront of news and created industry pressure. Despite the noise and intensity of protest, activism and awareness have generated little real or lasting change. Perhaps this is because good intentions are no substitute for expertise when it comes to fixing long-standing problems. Or, because programs that support filmmakers have focused on developing skills—particularly for women and people of color—rather than influencing hiring practices.

In order to truly move the needle, new and strategic solutions must be adopted. In particular, entertainment companies must find ways to address their dismal hiring and casting records when it comes to females, people of color, as well as the LGBT and disability communities. Here, we propose multiple ideas for companies, content creators, industry executives, and consumers. These tangible solutions rely on the knowledge of experts to offer innovative ways to increase inclusion in entertainment. These go beyond so-called best practices and the whims of advocates to offer actionable ideas for sustainable change.

First, companies must *set target inclusion goals* and measure their progress toward attaining them. Clearly, the adage "what gets measured gets done" does not hold true—if the bevy of reports on inclusion are any example—and companies must instead set out to achieve inclusion, measuring their progress along the way. Doing so creates a clear benchmark for establishing whether change has occurred. It also provides a firm knowledge of what inclusion means and how it can be quantified, rather than relying on feelings or anecdotal evidence. By setting transparent goals, companies also demonstrate that there is a value for stories, casting, and storytellers that reflect the audience.

As a part of their goal-setting, companies can *create inclusive consideration lists* when hiring directors or other behind-the-scenes roles. This means that executives should aim to represent the diversity in the talent pipeline when developing lists of potential directors. Our previous research shows that 28% of narrative short film directors at top festivals worldwide are female.[38] Thus, companies seeking to hire a director should ensure that close to 30% of the candidates they consider are female.

Beyond companies, film schools and film festivals can also set benchmarks for inclusion that help bolster the pipeline for diverse talent. Aside from goals related to enrollment or filmmakers, these institutions can also set inclusion objectives related to the programmers, faculty, or board members. Adding these diverse perspectives can create environments for learning and development that may appeal to filmmakers from various backgrounds. Ultimately, this may ensure that female and underrepresented filmmakers have early career and educational opportunities that offer experiences essential to later success.

Seeking to enroll or showcase diverse talent must be met by efforts *to ensure environments do not trigger stereotypes*. Spaces for learning, pitching, or working may have implicit cues that hinder performance or a sense of belonging in women or individuals from underrepresented

racial/ethnic groups. Devising workspaces that allow every individual to use their full creative powers without the risk of falling prey to stereotypes are one way to gain ground for inclusion.

Addressing inequality means *combatting explicit and implicit biases*. The next two solutions address these biases in casting small parts and background roles. One way to address the lack of diversity in these positions is for content creators to *just add five*. The average film (based on our research) has roughly 40 speaking characters. Most of these characters are inconsequential to the plot. If writers were to simply add five female speaking characters to every film, it would increase yearly the percentage of female characters on screen. This new percentage, when built upon each year, will lead to equality on screen in a mere three years. Given that parity has not been achieved in half of a century,[39] this is remarkable. It also creates opportunities for females from all racial/ethnic backgrounds, females with disabilities, and LGBT females to be added to stories. Thus, it is an intersectional solution to the decades-old problem of underrepresentation of girls and women in film.

Figure 6
Percentage of Speaking Roles by Gender: Just Add Five
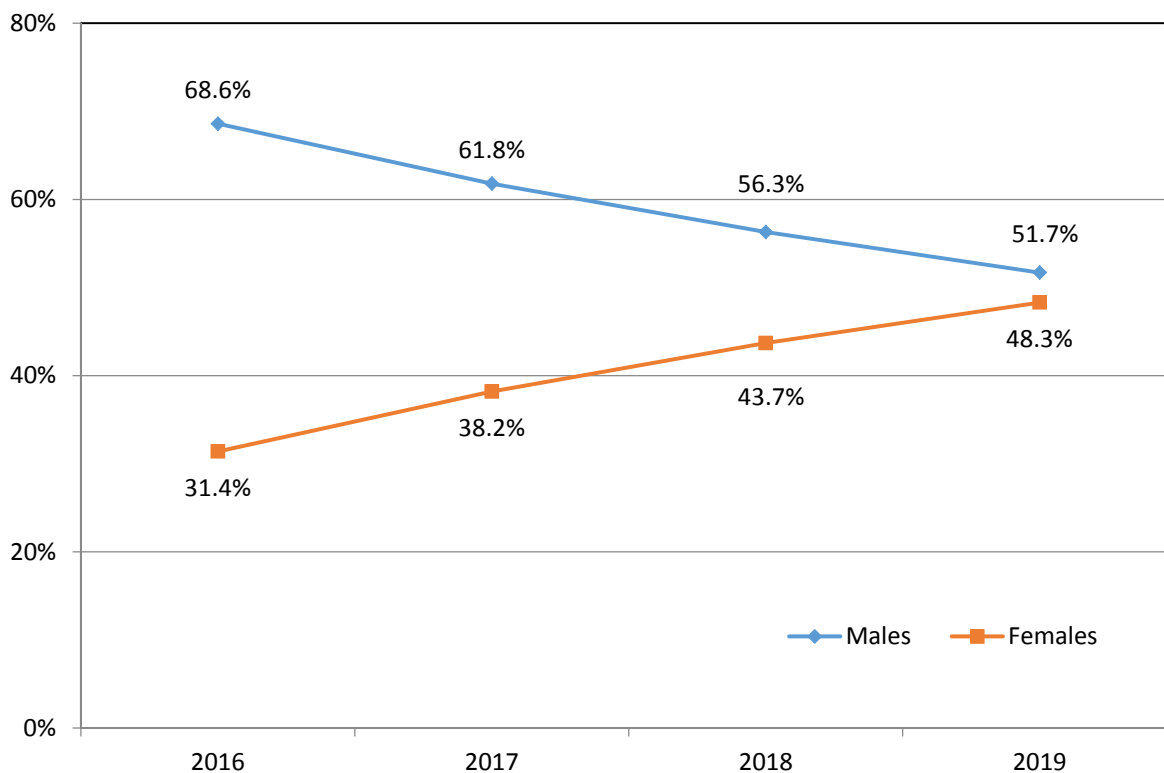
Another solution is for high-profile talent to add an *equity clause* to their contract. Devised by Dr. Stacy L. Smith and developed with civil rights attorney Kalpana Kotagal, the clause specifies a more equitable process for auditioning and casting on-screen talent and interviewing and hiring for behind-the-camera jobs. The clause instantiates equality from a film's inception; creates a

system of checks and balances to achieve it; and develops metrics to permit a review of its success. For A-list actors, directors, or producers, using an equity clause is a way to do more than advocate for change, it is a means to achieving it.

Lastly, consumers can advocate for change in two ways. The first is by *supporting content* that breaks the patterns observed in this report—films driven by or featuring females, underrepresented groups, LGBT individuals, and people with disabilities. What does supporting inclusive content look like? It can be financial, through tickets purchased or paying for other forms of content. It might mean posting or sharing on social media about upcoming films that feature diverse casts or content creators. Or, for philanthropists or organizations (i.e., Lunafest, Refinery29), it might mean supporting diverse female artists early in their careers.

Further, *shareholders* can influence companies to do more to create inclusive content. Through the pathways open to them, individuals who own stock in entertainment companies can demand transparency, accountability, and ultimately, diversity in the products these corporations create and sell. Proportional representation across a story or film slate should not be viewed as a threat to profits, particularly as most characters in movies say only one word. In fact, in one study with industry decision-makers, over half of participants stated that having a gender-balanced cast would not impact a film's bottom line.[40]

To fully understand the impact inclusivity has on a film's success, it is imperative that sophisticated, rigorous, and independent *economic analyses* be conducted. To date, we know of only one study that meets this criteria.[41] The initial results demonstrated that the presence of a female lead or co lead did not significantly influence domestic box office, while other factors (i.e., widest point of release, critic score, production cost) were stronger direct and/or indirect predictors of economic performance. Despite these encouraging findings, the study must be replicated on a larger sample of movies before the results can be considered conclusive.

We must acknowledge at least two limitations with the present study. Only the 100 top-grossing movies each year are included. Films that are less popular may be more inclusive; however, our sample is chosen yearly to reflect the movies that play to the widest audience and serve as agenda-setting content. An additional limitation is that our disability analysis does not include a broader focus on mental health issues that may not meet the ADA definition of disability. We are in the process of remedying this, as we are collecting this data for a future study.

Despite these limitations, the current report provides the greatest breadth and depth of information regarding inclusion in popular film to date. In contrast to other studies, it examines *every* speaking or named character shown on screen across 100 movies per year and includes a visibility analysis of who is missing from our cultural narratives. Moreover, our behind the camera analyses are intersectional—uniting information on gender and race/ethnicity to reveal that women of color are nearly erased as directors in film.

Year to year, advocates and activists clamor for greater inclusion in popular movies. As this report indicates, that demand has gone unfulfilled. Despite the money, time, and energy

invested in creating awareness or equipping filmmakers for opportunities that do not materialize, we have not seen change. Unfortunately, *until content creators and companies adopt evidence-based solutions to exclusionary hiring and casting practices, it is unlikely that anything will.*

At a time of political divisiveness, entertainment has the power to reflect our uncertainties, serve as an escape from our fears, and most importantly, help us envision a different reality. While some of our greatest national challenges arise from a population that continues to diversify across every dimension, popular movies paint a distressing portrait that perpetuates a version of the U.S. that simply no longer exists. We cannot expect that films will heal our political differences. But we can ask that the landscapes of imagination and storytelling on display at the multiplex resemble the audience there to be entertained. By taking inclusion seriously and acting to address it, companies, consumers, and creators can ensure that entertainment moves away from a vision of the past and toward content that resembles the audience of the present. As we all grapple with what it means to be Americans in an America we may not recognize, movies may matter more than we realize.

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Kelly Ching	Xiaoyue Evelyn Lu	Megan Valencia
Mahan Chitgari	Edward Lau	Nandeeta Vaswani
Christine Choi	Maria Vitoria Marques	Sylvia Villanueva
Samantha Cioppa	Bryn McFadden	Sarah Voss
Jose Cisneros	Catriona McIlwraith	Emma Vranich
Hannah De Alicante	Katherine L. Neff	Rachael Woods
Audrey Deighan	Sarah L. Neff	Mengran Xia
Jessie DiRuggiero	Emily New	Melissa Yau
Lance Good	Mia Nguyen	Praisella Yosep
Jack Haley	Alison Omon	Zacharie Zee
Autumn Henry	Sarah Park	
Megan Jackson	Ariana Parsa	

Footnotes

1. The sample each year is determined by the list of the 100 top fictional films on Box Office Mojo. See: http://www.boxofficemojo.com/yearly/chart/?yr=2016&p=.htm

2. For this study, there are two primary units of analysis: the speaking character and the film. A speaking character is one that utters at least a single discernible word on screen or is referred to by name. Sometimes, speaking characters are shown in groups or crowds which makes isolating their independent identity difficult to ascertain. As a rule, all characters shown engaging in simultaneous speech were not unitized or coded in this study. However, there are instances when identical characters speak sequentially on screen. When this occurs, the replicates (e.g., all males, all females) were unitized or loaded onto one line of data. Only 7 identical, sequentially speaking groups appeared across the sample which is consistent with the range found in previous years (low=3, high=30). Each year these groups are excluded prior to analysis.

Each speaking or named character is typically coded only once when s/he/it appears on screen. However, there are times when a character may transform or change across the plot. These alterations happen in both animated and non animated films. For instance, we see Chiron at three different and distinct ages in *Moonlight* which is similar to Dory's character in *Finding Dory*. As with all our reports, we stipulate that a character undergoing a type, age grouping, gender, or race/ethnicity change will constitute a new line or unit of analysis. A total of 180 demographic changes occurred, with 59.4% male and 40.6% female. Omitting these from the analyses changes the overall percentage of males and females minimally. 31.4% of females comprise the sample with demographic changes, 31.1% without demographic changes. Just like all of our previous reports, demographic changes are included in all statistical analyses. The only deviation from this was in 2014 in reporting LGBT characters.

Each speaking or named character was measured for demographic, domesticity, and sexualization indicators. Because these variables have been defined in multiple reports (see MDSC Initiative website, http://annenberg.usc.edu/research/mdsci), we provide a cursory review of our measures below. For demographic variables, characters were coded for *type* (i.e., human, animal, supernatural creature, anthropomorphized supernatural creature, anthropomorphized animal), *biological sex* (male, female), *race/ethnicity* (i.e., White, Hispanic/Latino, Black, American Indian/Alaskan Native, Native Hawaiian/Pacific Islander, Asian, Middle Eastern, Other), and *age grouping* (i.e., 0-5 years, 6-12 years, 13-20 years, 21-39 years, 40-64 years, 65 years and older).

Domestic roles included *parental status* (i.e., non parent, single parent, co parent, parent relational status unknown) and *relational standing* (i.e., single, married, committed/unmarried, committed/marital status unknown, divorced, widowed). These last two measures were only applicable when enough cues were present in the storyline to render a reliable judgment. As such, many of the sample sizes for the analyses on the domestic indicators are small and should be interpreted cautiously.

Three measures captured attributes of sexualization. The presence or absence of *sexually revealing attire* was assessed. Based on an adaptation of Downs & Smith's (2010, p. 725) definition, *sexy attire* is tight or revealing apparel that draws attention to the curves, angles, or details of the body between the neck line and upper thigh region. *Nudity,* or the amount of exposed skin was measured as none, some (i.e., exposure of skin in chest/cleavage, midriff, or high upper thigh), or full (for males, this refers to exposure of the genital area or buttocks; for females, this refers to exposed nipples, in addition to exposing buttocks or genital area). This measure was also adapted from Downs & Smith (2010, p. 725). For validity

purposes, screenshots of every depiction of sexually revealing clothing and partial/full nudity were taken to verify the coding designations across films and research assistants. All pictures were reviewed by the senior leadership team. Disagreements with coding judgments were discussed and content was re-watched when a decision could not be made based on the screen shots captured. Only characters with torsos that reflected a human or human-like body were assessed for these two measures.

Lastly, *physical attractiveness* (i.e., verbal or nonverbal references) was examined for every speaking or named character. Each character was coded as none, one reference, or two or more references. Unlike the other two sexualization indicators, attractiveness was assessed across every speaking or named character in the sample.

The vast majority of measures featured two additional coding levels: can't tell and not applicable. "Can't tell" was used when a character possessed a particular trait but it was impossible to ascertain what level of the variable should be applied. For instance, a character that only says one word in a coffee shop may be shown with a baby in a stroller. The information in the scene may not be enough to render the character a parent, nanny, relative such as an aunt or an uncle, or a kidnapper. In this example, the character's parental status would be coded as "can't tell." "Not applicable" was used when a measure was not relevant to a particular character. Anthropomorphized animals or supernatural creatures (i.e., Hei Hei, *Moana*) without human-like bodies may exist in cultures where characters do not wear clothing. In such instances, the sexually revealing clothing and nudity variables are "not applicable."

We started measuring sexual and gender identity in our 2014 report. Apparent sexuality captures enduring romantic and/or sexual interest in men, women, or both. In the absence of explicit information about a character's sexuality, we stipulated that at least two contextual cues had to be present for a character to be coded as lesbian, gay, or bisexual (LGB). This measure was collapsed into two levels: LGB vs. not LGB. We also examined whether a character was transgender. Transgender individuals are those whose biological sex does not reflect their gender identity. Each character was coded as transgender vs. not. Two caveats are important to note about this variable. First, cross-dressing characters or those performing in drag are not automatically coded as transgender without additional information. Second, notable transgender individuals (e.g., Laverne Cox) making an appearance as themselves are automatically coded as transgender.

In addition to variable coding at the character level, each film was evaluated for genre and rating. These distinctions were made using a variety of online sources: IMDbPro.com, Box Office Mojo, and Variety Insight. Finally, the type of narrative (lead, co lead, ensemble cast) structure was evaluated for each movie. Over the years, the MDSC Initiative leadership team has discovered that research assistants sometimes have difficulty understanding whether a movie features a single lead, two leads, or a group of characters. As such, the leadership team is involved in verifying these judgments based on an understanding of Syd Field's three-act structure.

The coding instrument was taught to undergraduates enrolled in a class across 6 weeks. The same instructor (Marc Choueiti) has trained all of the research assistants evaluating the 100 top-grossing film samples from 2007 through 2016. The coding was completed primarily by coders trained in the Fall of 2016 and Spring of 2017. Once training is finished and several practice diagnostics have been completed, the sample of films are assigned for coding. Three research assistants evaluate each movie independently. Unitizing and variable reliability is calculated per film and disagreements are resolved through discussion. After all judgments were finalized, a fourth evaluator "quality checked" the final file. Quality checking refers to watching the film meticulously and assessing all of the final decisions without the burden of

building the initial excel file. Disagreements discovered in the quality checking stage were brought to the attention of the MDSC Initiative leadership team.

Each movie was evaluated for reliability in two ways. Unitizing reliability was the number of lines (characters) per film that the majority of coders (2 out of 3) agreed upon. A film with a unitizing agreement of 100% indicates that every speaking character was identified by at least 2 of 3 research assistants. Agreement is reported in quartiles: Q1 100%-90% (films 1-25); Q2 89.71%-83.72% (films 26-50); 83.33%-76.39% (films 51-75); 76.32%-52.17% (films 76-100). It must be noted that 10 movies had unitizing reliability less than 70% and only 2 were below 60%.

The Potter & Levine-Donnerstein (1999) formula for multiple coders was used to calculate variable reliability. The sample-wide median is reported for each measure, followed by the mean and range (low to high) in parentheses: *role* 1.0 (*M*=.99, range=.63-1.0); *type* 1.0 (*M*=1.0, range=1.0); *sex* 1.0 (*M*=1.0, range=1.0); *race/ethnicity* 1.0 (*M*=.99, range=.66-1.0); *age* 1.0 (*M*=.93, range=.65-1.0); *parental status* 1.0 (*M*=.99, range=.64-1.0); *relational standing* 1.0 (*M*=.99, range=.65-1.0); *sexually revealing clothing* 1.0 (*M*=.98, range=.61-1.0); *nudity* 1.0 (*M*=.98, range=.63-1.0); *physical attractiveness* 1.0 (*M*=.996, range=.63-1.0); *apparent sexuality* 1.0 (*M*=.996, range=.64-1.0); and *transgender* 1.0 (*M*=.99, range=.61-1.0).

3. Hunt, D., Ramon, A.C., & Tran, M. (2016). *2016 Hollywood Diversity Report: Busine$$ as Usual?* Ralph J. Bunche Center for African American Studies. Los Angeles, CA. UCLA. Negron-Muntaner, F. & Abbas, C. (2016). *The Latino Disconnect: Latinos in the Age of Media Mergers*. Center for the Study of Ethnicity and Race. New York, NY. Columbia University

4. The chi-square test for *MPAA rating* (PG, PG-13, R) and *character gender* (male, female) was not significant, X^2 (2, 4,583)=1.27, *p*=.53, phi=.02.

5. Genre was collected from Box Office Mojo for each film. Using these labels, each movie was grouped into only one of the following categories: Action/Adventure, Animated, Comedy, Drama, Horror/Thriller, or None of the above (e.g., Fantasy). For some films, more information was sought from IMDbPro.com to assist categorization.

6. Motion Picture Association of America (n.d., p. 15). *Theatrical Market Statistics 2016*. Author. Retrieved from: http://www.mpaa.org/wp-content/uploads/2017/03/MPAA-Theatrical-Market-Statistics-2016_Final.pdf. U.S. Census Bureau (2016). Quick Facts. Retrieved July 17, 2017 from https://www.census.gov/quickfacts/.

7. It must be noted that Tyler Perry's portrayal in *Boo! A Madea Halloween* was not included in this number, as the focus was on underrepresented female **actors**.

8. We measured the age of each lead and co lead at the theatrical release date of the film. Each actor's birthday was confirmed using Variety Insight, Studio System, or other online sources (e.g., Twitter, Facebook, or news articles). The release date of each film was obtained from IMDbPro.com.

9. Prior to analysis, the parental status measure was collapsed into two levels: not a parent vs. parent (single, co parent, parent/relational status unknown). The chi-square analysis revealed an association between *parental status* (no, yes) and *character gender* (male, female): X^2 (1, 1,038)=18.55, *p*<.05, phi=.13. It must be noted that the character sample size decreases substantially on all analyses involving

parental status and relational standing. This is due to the fact that little information on these variables is provided across the vast majority of tertiary characters that only say one or a few words on screen.

10. Relational standing was collapsed into two levels before the analysis was computed: no current relationship (single, divorced, widowed) and current relationship (married, committed relationship/not married, committed/marital status unknown). Romantic relationships were assessed without regard to the gender of the participants. The association between *current romantic relationship* (no, yes) and *character gender* (males, females) was significant, X^2 (1, 1,042)=12.13, *p*<.05, phi=.11.

11. Herrett-Skjellum, J., & Allen, M. (1996). Television programming and sex stereotyping: A meta-analysis. *Communication Yearbook, 19*, p. 157-185. Davies, P.G., Spencer, S.J., Quinn, D.M., & Gerhardstein, R. (2002). Consuming images: How television commercials that elicit stereotype threat can restrain women academically and professionally. *Personality and Social Psychology Bulletin, 28*(12), p. 1615-1628. Opplinger, P.A. (2007). Effects of Gender Stereotyping on Socialization. In R.W. Press, B.M. Gayle, N. Burrell, M. Allen, & J. Bryant (Eds.) *Mass Media Effects Research: Advances Through Meta-Analysis.* Mahwah, NJ. LEA

12. Before computing a chi square, the age variable was collapsed into four levels: 0-12 years, 13-20 years, 21-39 years, or 40 years and older. The relationship between *character age* (0-12, 13-20, 21-39, 40 and older) and *character gender* (male, female) was significant, X^2 (3, 4,282)=96.95, *p*<.05, V*=.15.

13. The chi-square analysis for *sexually revealing clothing* (no, yes) and *character gender* (male, female) was significant, X^2 (1, 3,921)=323.87, *p*<.01, phi=.29. Prior to running the analysis on nudity, the variable was collapsed into two levels: no nudity vs. some nudity (some, full). The association between *nudity* (none, some) and *character gender* (male, female) was also significant, X^2 (1, 3,922)=185.79, *p*<.01, phi=.22. Full nudity rarely occurred (*n*=31 of 570 instances). When characters were depicted fully nude, 48.4% were male and 51.6% were female.

14. The *attractiveness* measure was bifurcated into two levels: no attractiveness reference vs. attractiveness reference (one or more). Then, a chi square was computed on this variable and *character gender* (male, female). A significant association was revealed, X^2 (1, 4,583)=107.57, *p*<.01, phi=.15.

15. Fredrickson, B.L., & Roberts, T.A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly, 21*, p. 173-206. Roberts, T.A., & Gettman, J.Y. (2004). Mere exposure: Gender differences in the negative effects of priming a state of self-objectification. *Sex Roles, 51*(1/2), p. 17-27. Aubrey, J.S. (2006). Effects of sexually objectifying media on self-objectification and body surveillance in undergraduates: Results of a 2-year panel study. *Journal of Communication, 56*, p. 366-386.

16. American Psychological Association, Task Force on the Sexualization of Girls (2007). Report of the APA Task Force on the Sexualization of Girls. Retrieved from http://www.apa.org/pi/women/programs/girls/report-full.pdf

17. Analyses for female characters' *age* (teen, young adult, middle age) by the two sexualization measures were significant: *SRC* X^2 (2, 1,044)=21.10, *p*<.01, V*=.14; *nudity* X^2 (2, 1,044)=21.82, *p*<.05, V*=.15. The *attractiveness* measure was not related to female characters' age, however: X^2 (2, 1,152)=3.74, *p*=.15, V*=.06.

Though not included in the body of the report, we wanted to highlight hyper sexualization patterns for male characters across the same three age groups. Table A presents the three sexualization indicators for male teens, young adult, and middle-aged characters. Two of the three analyses were statistically and meaningfully significant: *SRC X*^{2} (2, 2,215)=9.59, *p*<.01, V*=.07; *nudity X*^{2} (2, 2,215)=14.87, *p*<.01, V*=.08; *attractiveness X*^{2} (2, 2,544)=6.48, *p*<.05, V*=.05. Male teens (9.4%) were more likely to be shown in sexy attire than were their 40-64 year-old (4.3%) counterparts. A similar pattern emerged for nudity between these two age groupings: 16% vs. 7.1%. There was no meaningful (5% or greater) difference between attractiveness for these three age groups.

Table A
Male Character Sexualization by Age: 2016

Measure	13-20 year olds	21-39 year olds	40-64 year olds
% in sexy attire	9.4%	7.2%	4.3%
% w/some nudity	16%	11.1%	7.1%
% referenced attractive	6%	4.1%	2.5%

Note: Cells for each measure showcase the proportion of males within each age group across 100 films. The percentage of male characters for whom the attribute was absent can be found by subtracting from 100%.

18. To determine who worked as directors, writers, and producers across the 100 top films each movie was researched using IMDbPro.com. A small subset of the research team complied lists containing each credited individual in each of the three categories. Individuals who were listed in IMDbPro.com as "uncredited" as well as those credited for supervisory or executive roles, such as "Production Executive" and "Production Supervisor," were not included. Each individual was only included once within a production category. Once the lists were complete, five research assistants looked up the gender of all directors, writers, and producers. Online film industry databases (e.g., Variety Insight, Studio System, IMDbPro.com) and other sources (e.g., photos, news, personal websites) were used to confirm each credited worker as male or female. The gender and source of each decision was checked a second time by another research assistant before analyses were completed. Only one individual (credited twice as an associate co-producer on two films in the sample) was unable to be confirmed as male or female and was thus excluded from analyses.

Previous data collected for MDSC Initiative research (see our *Inclusion in the Director's Chair?* 2017 report) as well as databases (Studio System, Variety Insight, Directors Guild of America) and online sources (e.g. interviews, biographies) were used to confirm race for film directors. Director's representatives were contacted in cases where race data could not be verified using online sources. Five directors out of 120 were unable to be confirmed after all methods to verify their race were utilized. Their photos were used to make judgments regarding race (all five were inferred to be not Black and not Asian).

Data collection for film composers and classifying their gender followed the same procedure as above.

19. The chi-square between *director gender* (female attached, no female attached) and *character gender* (male, female) was not significant, *X*^{2} (1, 4,583)=1.15, *p*=.28, phi=.02.

20. *Screenwriter gender* (female attached, no female attached) and *character gender* (male, female) was significant, X^2 (1, 4,583)=50.43, *p*<.01, phi=.11.

21. Motion Picture Association of America (n.d., p. 15). U.S. Census Bureau (n.d.).

22. An analysis revealed a non significant relationship between *character race/ethnicity* (White, Black, Latino, Asian, Other) and *character gender* (male, female), X^2 (4, 3,752)=3.77, *p*=.44, V*=.03.

23. The chi-square analyses for male *characters' race/ethnicity* and the two domesticity measures were not significant; *parental status* (X^2 (4, 481)=2.38, *p*=.67, V*=.07), *relational status* (X^2 (4, 493)=3.10, *p*=.54, V*=.08).

24. For female characters, the association between *characters' race/ethnicity* (White, Black, Latino, Asian, Other) and *parental status* (no, yes) was significant, X^2 (4, 406)=11.52, *p*<.05, V*=.17. No relationship emerged with *relational standing*, however; X^2 (4, 388)=3.51, *p*=.48, V*=.09.

25. Two of the three sexualization measures varied by character *race/ethnicity* (White, Black, Latino, Asian, Other) for female characters: *SRC* X^2 (4, 1,228)=21.55, *p*<.01, V*=.13; *Nudity*, X^2 (4, 1,228)=18.88, *p*<.01, V*=.12. No differences emerged for females in *physical attractiveness* by *race/ethnicity*, X^2 (4, 1,228)=5.51, *p*=.24, V*=.07.

26. None of the sexualization indicators varied by *race/ethnicity* (White, Black, Latino, Asian, Other) for male characters: *SRC* X^2 (4, 2,524)=2.35, *p*=.67, V*=.03; *Nudity* X^2 (4, 2,524)=1.64, *p*=.80, V*=.03; *Attractiveness* X^2 (4, 2,524)=3.02, *p*=.55, V*=.03.

27. Smyth, J.E. (2008). Classical Hollywood and the Filmic Writing of Interracial History, 1931-1939. In M. Beltran & C. Fojas (Eds.) *Mixed Race Hollywood.* New York, NY. New York University Press. see p. 24. Bastiaans, A.D. (2008). Detecting Difference in *Devil in a Blue Dress*: the Mulatta Figure, Noir, and the Cinematic Reification of Race. In M. Beltran & C. Fojas (Eds.) *Mixed Race Hollywood.* New York, NY. New York University Press. see p. 239. Dagbovie, S.A. (2007). Star-light, star-bright, star damn near white: mixed-race superstars. *The Journal of Popular Culture, 40*(2), p. 217-237. Shaheen, J. (2003). Reel bad Arabs: How Hollywood vilifies a people. *The Annals of the American Academy of Political and Social Science, 588*(1), p. 171-139.

28. The chi-square between *black director* (no, yes) and *black character* (no, yes) was significant, X^2 (1, 3,752)=370.36, *p*<.01, phi=.31.

29. The relationship between *black director* (no, yes) and *black female character* (no, yes) was significant, X^2 (1, 3752)=189.74, *p*<.01, phi=.23.

30. Gates, G.J. (2011). *How many people are Lesbian, Gay, Bisexual, and Transgender*? Report by The Williams Institute. Retrieved online: http://williamsinstitute.law.ucla.edu/research/census-lgbt-demographics-studies/how-many-people-are-lesbian-gay-bisexual-and-transgender/

31. In the 2014 report, we excluded demographic changes in the LGBT section. There were a total of two, as delineated in the footnote section of that investigation. The demographic changes were not included in the overall number of LGBT characters as the portrayals were significantly shorter than the character's

"main line" in the film (i.e., *The Imitation Game*, Alan Turing's flashback to childhood). There were only 2 demographic changes in 2014 and none in 2015. See our 2014 report, footnote 29.

This year, given that *Moonlight* focuses roughly a third of the story on three different ages of Chiron, we decided to leave type changes in. There were only 4 across all of the movies with an LGBT character. In doing such, we reran analyses from 2014 and included the demographic changes in the LGBT section of the report. The savvy reader will see that it increased our number of LGBT characters by 2 in the report.

32. The definition of disability in this report aligns with that used in our previous study, *Inequality in 800 Popular Films*. As such, three stipulations had to be fulfilled to be coded with a disability. One, characters had to possess a condition affecting the form, function, and/or structure of the body. Two, characters had to experience a present restriction in major life activities or major bodily functions. Three, the condition and restriction had to be prolonged (or be expected to last) for at least six months. More information on the ADA definition can be found at: https://www.ada.gov/regs2016/final_rule_adaaa.html

In this analysis, characters with scars present on their hands, feet, or face were evaluated for a disability. When scars met severity thresholds set by the U.S. military for compensation, they were considered a disability. This was assessed using photos of the character to measure the size and width of the scar. When scarring or missing digits gleaned remarks from others that were considered social censure (e.g., jokes, nonverbal expression), characters affected by these conditions were automatically included as possessing a disability.

Additional parameters also influenced disability judgments. Several types of characters were not allowed to possess a disability. Those were: celestial beings (i.e., creatures hailing from supernatural contexts such as demons, ghouls and the like), the undead (i.e., zombies, vampires), and robots (i.e., machinery, technology). This stipulation occurred because the nature of these beings is such that restrictions on major bodily functions or life activities are not possible.

The second requirement was that when disfigurement was assessed, each characters' species had to be discernible. The fantastical worlds created in film make it possible for characters from other planets or dimensions to be depicted. In these cases, a single character who possessed non-human facial features had to be compared to another character from their species to determine what was typical for the species before disability could be ascertained. When characters were presented without the context of others from their species, other physical, mental, or communicative disabilities were still assessed when they met the elements of the definition.

In line with the ADA definition, certain conditions were excluded from the analysis. Addiction was not included as a disability in this analysis due to measurement issues. Per the ADA, the remaining exclusions were: "(1) Transvestism, transsexualism, pedophilia, exhibitionism, voyeurism, gender identity disorders not resulting from physical impairments, or other sexual behavior disorders; (2) Compulsive gambling, kleptomania, or pyromania; or (3) Psychoactive substance use disorders resulting from current illegal use of drugs." Cited from: https://www.ada.gov/regs2016/final_rule_adaaa.html

Three independent evaluators assessed each film for the presence of characters with a disability separately from data collection for unitizing and judgment of demographic, domesticity, and sexualization measures. After rendering a judgment, they discussed each film with a member of the MDSC leadership team and a decision was made. Following this, the MDSC leadership team examined the set of notes and judgments made across the sample to create a final decision on each character with a disability. Reliability

was calculated per film across the sample. Here, sample-wide statistics (median, mean, range) are reported: *disability* 1.0 (M=1.0, range=1.0); *communicative* 1.0 (M=.96, range=.61-1.0); *mental* 1.0 (M=.97, range=.61-1.0); and *physical* 1.0 (M=.97, range=.61-1.0).

33. This figure does not include 4 characters with a supernatural disability. Including these individuals in the analysis would increase the percentage of characters with disabilities to 2.8% (n=128).

34. Brault, M.W. (2012). *Americans with Disabilities: 2010.* U.S. Department of Commerce Economics and Statistics Administration. Available: https://www.census.gov/content/dam/Census/library/publications/2012/demo/p70-131.pdf.

35. Brault (2012).

36. Fredrickson & Roberts (1997). Roberts & Gettman (2004). Aubrey (2006).

37. Smith, S.L., Pieper, K., & Choueiti, M. (2015). *Exploring the Careers of Female Directors: Phase III.* Report prepared for Women in Film Los Angeles and Sundance Institute. Media, Diversity, & Social Change Initiative. Los Angeles, CA. USC Annenberg. Smith, S.L., Pieper, K., & Choueiti, M. (2014). *Exploring the Barriers and Opportunities for Independent Women Filmmakers Phase I and II.* Media, Diversity, & Social Change Initiative. Report prepared for Sundance Institute and Women in Film Los Angeles. Media, Diversity, & Social Change Initiative. Los Angeles, CA. USC Annenberg.

38. Powers, S.P., Rothman, D.J., & Rothman, S. (1996). *Hollywood's America: Social and political themes in motion pictures.* Boulder, CO: Westview Press.

39. Smith, S.L., Pieper, K.M., Choueiti, M., & Case, A. (2015). *Gender & Short Films: Emerging Female Filmmakers and the Barriers Surrounding their Careers.* Media, Diversity, & Social Change Initiative. Report prepared for LUNAFEST. Los Angeles, CA. USC Annenberg.

40. Smith, S.L., Granados, A., Choueiti, M., Erickson, S., & Noyes, A. (2011). *Changing the Status Quo: Industry Leaders' Perceptions of Gender in Family Films.* Executive summary and report prepared for the Geena Davis Institute on Gender in Media.

41. Smith, S.L, Weber, R. & Choueiti, M. (2010, August). *Female characters and financial performance: An analysis of 100 top-grossing films at the box office and dvd sales.* Paper presented at a poster session at the annual conference of the Association for Education in Journalism and Mass Communication. Denver, CO.

Appendix A
List of Films in the 2016 Sample

Rogue One: A Star Wars Story	Don't Breathe	Lion
Finding Dory	Miss Peregrine's Home for	The Huntsman: Winter's War
Captain America: Civil War	Peculiar Children	Kubo and the Two Strings
The Secret Life of Pets	The Accountant	Manchester by the Sea
The Jungle Book (2016)	Teenage Mutant Ninja	Warcraft
Deadpool	Turtles: Out of the Shadows	How to Be Single
Zootopia	The Purge: Election Year	Mike and Dave Need
Batman v Superman: Dawn of	Alice Through the Looking	Wedding Dates
Justice	Glass	War Dogs
Suicide Squad	Pete's Dragon (2016)	Almost Christmas
Sing	The Girl on the Train (2016)	Money Monster
Moana	Boo! A Madea Halloween	Allied
Fantastic Beasts and Where	Storks	Nerve
To Find Them	10 Cloverfield Lane	Risen
Doctor Strange	Lights Out	The Nice Guys
Hidden Figures	Hacksaw Ridge	The Boy (2016)
Jason Bourne	The Divergent Series:	Dirty Grandpa
Star Trek Beyond	Allegiant	Ouija: Origin of Evil
X-Men: Apocalypse	Now You See Me 2	The 5th Wave
Trolls	Ice Age: Collision Course	Inferno
La La Land	The Boss	Mother's Day
Kung Fu Panda 3	London Has Fallen	Patriots Day
Ghostbusters (2016)	Miracles from Heaven	Gods of Egypt
Central Intelligence	Deepwater Horizon	Collateral Beauty
The Legend of Tarzan	Why Him?	Hail, Caesar!
Sully	My Big Fat Greek Wedding 2	When the Bough Breaks
Bad Moms	Jack Reacher: Never Go Back	Zoolander 2
The Angry Birds Movie	Fences	Moonlight (2016)
Independence Day:	Me Before You	The Finest Hours
Resurgence	The BFG	Florence Foster Jenkins
The Conjuring 2	Neighbors 2: Sorority Rising	Hell or High Water
Arrival	The Shallows	The Forest
Passengers (2016)	Office Christmas Party	Ben-Hur (2016)
Sausage Party	Assassin's Creed	The Witch
The Magnificent Seven (2016)	Barbershop: The Next Cut	Bridget Jones's Baby
Ride Along 2	13 Hours: The Secret Soldiers	Whiskey Tango Foxtrot
	of Benghazi	