Gender Inequality in Popular Films: Examining On Screen Portrayals and Behind-the-Scenes Employment Patterns in Motion Pictures Released between 2007-2013

Dr. Stacy L. Smith | Marc Choueiti | Dr. Katherine Pieper

slsmith@usc.edu

Media, Diversity, & Social Change Initiative

USC Annenberg
School for Communication
and Journalism

USC University of Southern California

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The purpose of this study was to examine gender on screen and behind the camera in the 600 top-grossing films of 2007, 2008, 2009, 2010, 2012, and 2013. This is the largest and most comprehensive longitudinal study of gender prevalence in recent film to date. We assessed every speaking or named character (*n*=26,225) across the sample of movies. Characters were evaluated for demographic and hypersexuality attributes. In addition, we scrutinized the distribution of gender behind the camera.

Key Findings

Prevalence of Males and Females On-Screen and Behind-the-Camera

Across 4,506 speaking characters evaluated, 29.2% were female and 70.8% were male in the 100 top-grossing films of 2013. Of these 100 films, 28% of the films had a female lead or co-lead. The percentage of female characters in 2013 does not differ from the other years in the sample (2007=29.9%; 2008=32.8%; 2009=32.8%, 2010=30.3%; 2012=28.4%).

In 2013, R-rated films (31.2%) featured a higher percentage of female speaking characters than PG films (24.9%), with PG-13 (28.6%) holding a middle position.

The percentage of females by film genre was assessed for films in 2013, 2010, and 2007. Comedy depicted the largest percentage of female characters (2013=36%; 2010=36%; 2007=36%). Action and/or adventure films depict girls and women in less than a quarter of all speaking roles. Animation films depict females in less than a third of all roles, but fluctuate across the years studied.

Examining gender-balanced casts in 2013 (women in 45-54.9% of all speaking roles), only 16% of movies included gender parity. One film contained no female speaking characters. Another 12% of movies portrayed females in less than 15% of the cast and 52% of the films depicted girls and women as 15-34.9% of the cast. Only 2% of films featured more female than male characters.

Turning to behind the scenes, out of 1,374 directors, writers, and producers credited across the sample, less than a fifth (15.9%) of these content creators were women. This calculates into a gender ratio of 5.3 male filmmakers to every 1 female. Only 1.9% of directors, 7.4% of writers, and 19.6% of producers were women. Looking at the film as the unit of analysis, only 2 had a female director attached, 15 had a female writer attached, but 84 had a female producer attached.   The number of female directors and writers is at a six-year low.

Portrayal of Male and Female Characters

The age of male and female characters was examined. Focusing on the adult category (21-39 years old), females were more likely to be depicted in this age bracket (53.9%) than were males (45.3%). In contrast, males (39.8%) were more likely than females (24.9%) to be middle aged (40 to 64 years of age).   A full 42.9% of children (0-12 yr. olds) on screen were female. Of the teen characters, 41.2% were female and 58.8% were male.

Across all six years, slightly more than half of all female characters in film were between 21 and 39 years of age. Less than a quarter of all female roles were for characters between the ages of 40 and 64.

Differences in the hypersexualization of male and female characters were explored. Females (30.2%) were far more likely than males (9.7%) to be shown in sexualized attire (i.e., tight or revealing clothing). Females (29.5%) were more likely than males to be shown with partial or full nudity (11.7%). It was also the case that females were more likely than males to be referenced as physically attractive (13.2% vs. 2.4%).

In 2013, we see a reversal in a three-year climb in teen hypersexualization. The percentage of female teens depicted in sexy attire or with exposed skin dramatically increased between 2009 and 2012. In 2013, these percentages drop 17.2% and 18.4% from the previous year. Given that there are so few female teens in the sample, these yearly percentages may fluctuate based on portrayals in a small number of movies. Therefore, the results should be interpreted with caution.

A full description of the results and methodology of the study can be found in the report.
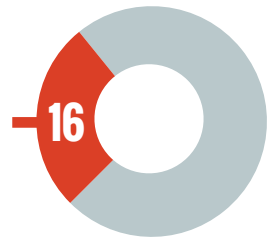
OUT OF 100 FILMS

PREVALENCE OF FEMALE SPEAKING CHARACTERS ON SCREEN

40%

Year	Value
2007	29.9
2008	32.8
2009	32.8
2010	30.3
2012	28.4
2013	29.2

30
20
10
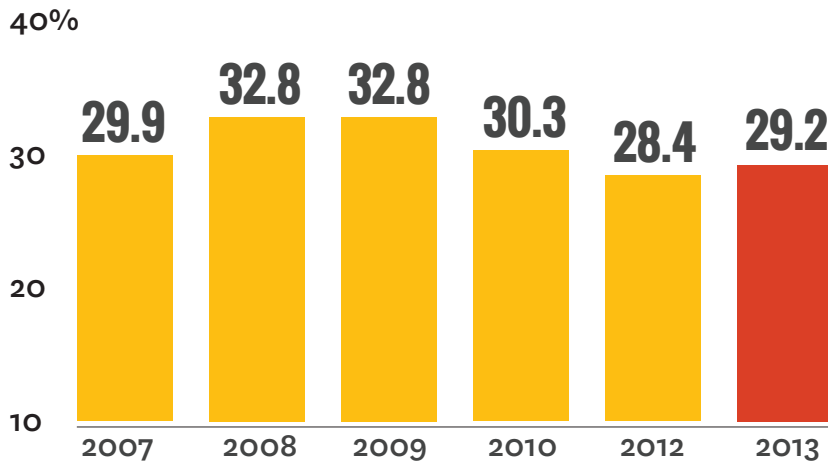
2013 DATA

Percentage of films with balanced casts: **16**

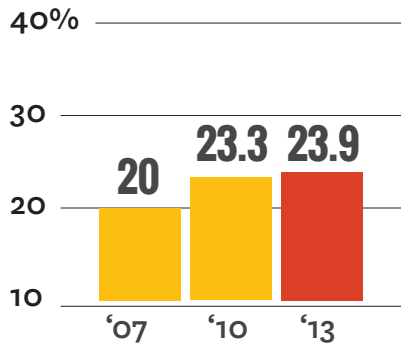Ratio of males to females: **2.43:1**

Total number of speaking characters: **4,506**

PERCENTAGE OF FEMALES BY FILM GENRE

ACTION/ADVENTURE

40%

Year	Value
'07	20
'10	23.3
'13	23.9

30
20
10

ANIMATION

40%

Year	Value
'07	20.9
'10	30.7
'13	24.6

30
20
10

COMEDY

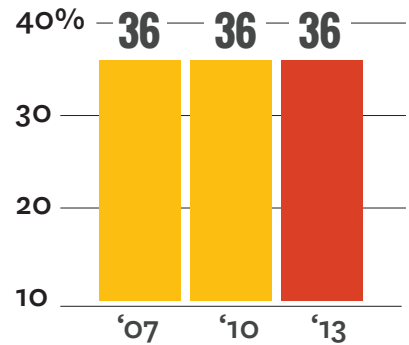40%

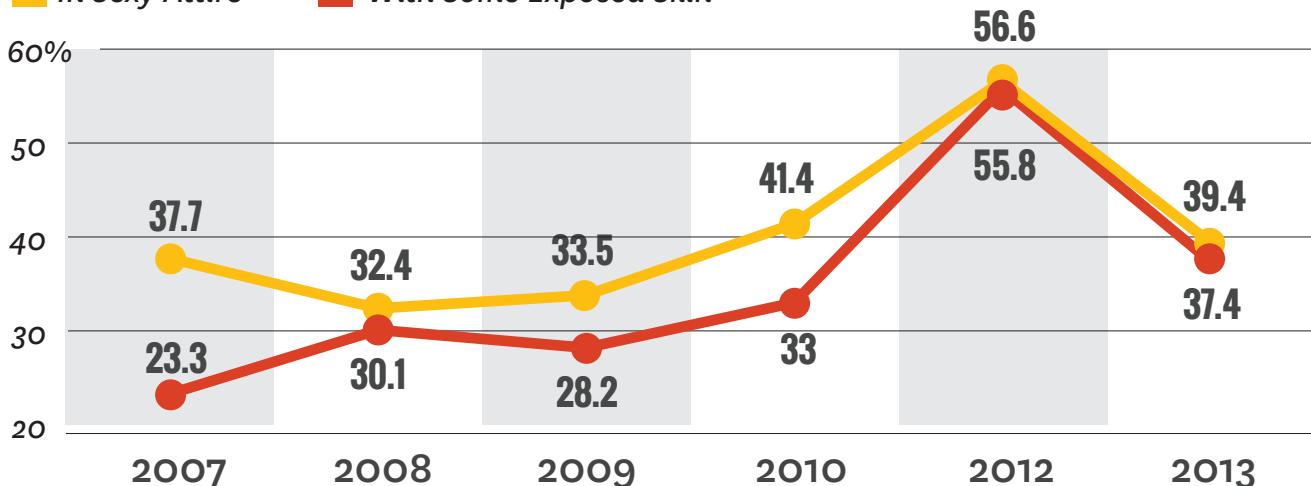| Year	Value
'07	36
'10	36
'13	36

30
20
10
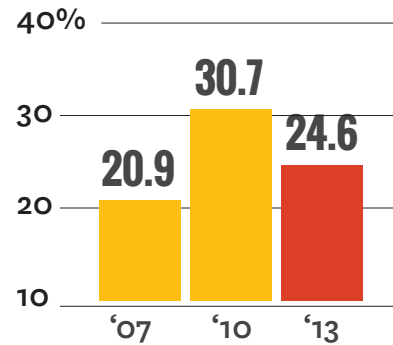
Note: Genre was determined by using Box Office Mojo designations.

PERCENTAGE OF FEMALES 13-20 YEARS OLD

■ In Sexy Attire   ■ With Some Exposed Skin

60%

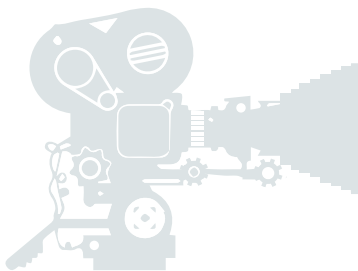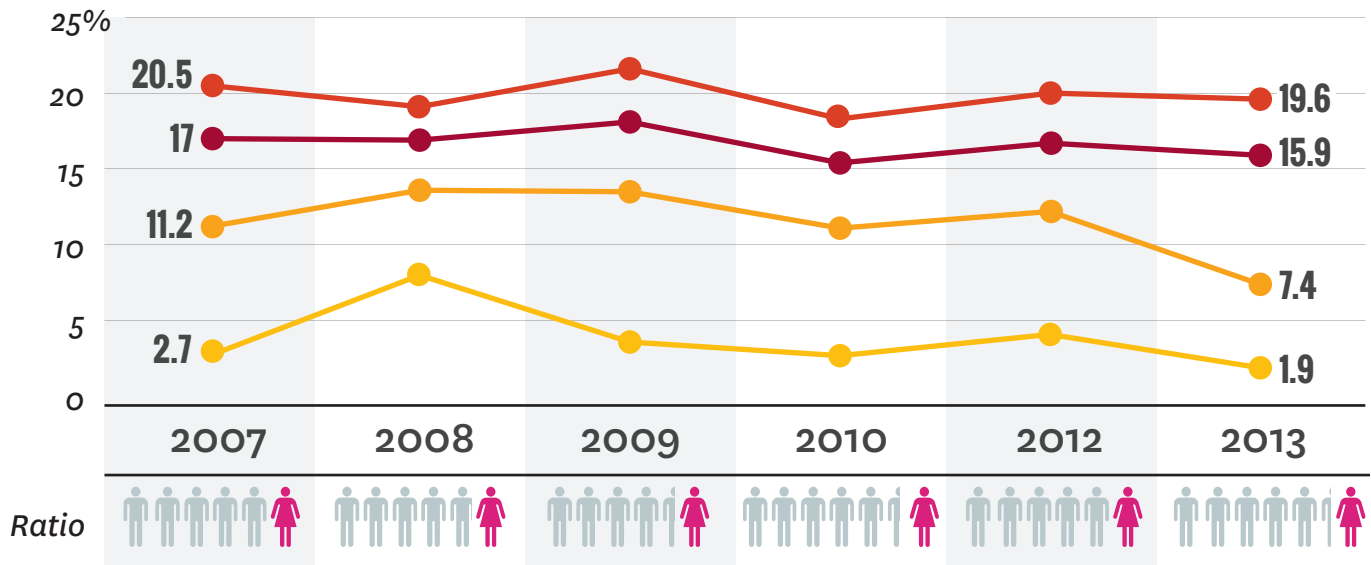| Year	In Sexy Attire	With Some Exposed Skin
2007	37.7	23.3
2008	32.4	30.1
2009	33.5	28.2
2010	41.4	33
2012	56.6	55.8
2013	39.4	37.4

50
40
30
20

PREVALENCE OF FEMALES BEHIND THE CAMERA

■ *Percentage of female directors* ■ *Percentage of female writers* ■ *Percentage of female producers* ■ *Percentage of total females (d/w/p)*

	2007	2008	2009	2010	2012	2013
Female producers	20.5					19.6
Total females (d/w/p)	17					15.9
Female writers	11.2					7.4
Female directors	2.7					1.9

Ratio

THERE ARE ONLY

22

UNIQUE FEMALE DIRECTORS BETWEEN 2007 AND 2013.

Anne Fletcher	Kathryn Bigelow
Betty Thomas	Kimberly Peirce
Brenda Chapman	Kirsten Sheridan
Catherine Hardwicke	Lana Wachowski
Diane English	Loveleen Tandan
Elizabeth Allen Rosenbaum	Nancy Meyers
Gina Prince-Bythewood	Nora Ephron
Jennifer Flackett	Phyllida Lloyd
Jennifer Lee	Sanaa Hamri
Julie Anne Robinson	Shari Springer Berman
Julie Taymor	Susanna White

Gender Inequality in Popular Films
Full Report

The purpose of this study was to examine gender on screen and behind the camera in the 100 top-grossing films of 2013.[1] To this end, we assessed every speaking or named character (*n*=4,506) across the sample of movies.[2] Characters were evaluated for demographic and hypersexuality attributes.[3] In addition, we scrutinized the distribution of gender behind the camera.

To present a picture of overtime patterns, we compared our present findings to 5 previous years of motion picture content. Thus, this longitudinal study evaluates more than 25,000 speaking characters and 600 top-grossing films from 2007-2013. Below, we highlight our major findings. First, we report gender prevalence on screen and behind the camera in film. Then, we turn our attention to the nature or way in which characters were portrayed. Similar to our other reports, only statistically ($p < .05$) and practically (5%) significant relationships between variables are reported.[4]

Gender Prevalence: On Screen & Behind the Camera

Across 4,506 speaking characters evaluated, 29.2% were female and 70.8% were male in the 100 top-grossing films of 2013. This translates into a gender ratio of 2.43 males to every 1 female. The percentage of female characters in 2013 does not differ from the other years in the sample (see Table 1). In one of our studies on G, PG, and PG-13 films between 1990 and 1995, we found that only 28.7% of speaking characters were female.[5] Other scholars have documented that only 25% of speaking characters were female in a sample of films from 1946-1955.[6] Thus, the prevalence of

Table 1
Prevalence of Female Speaking Characters On Screen: 2007-2013

Prevalence	2007	2008	2009	2010	2012	2013
% of female characters	29.9%	32.8%	32.8%	30.3%	28.4%	29.2%
% of films w/balanced casts	11.9%	15%	16.8%	4%	6%	16%
Ratio of males to females	2.35 to 1	2.05 to 1	2.05 to 1	2.3 to 1	2.51 to 1	2.43 to 1
Total # of speaking characters	4,379	4,370	4,342	4,153	4,475	4,506
Total # of films	100	100	100	100	100	100

females on screen has not changed for more than a half of a century. Turning from overall percentages to lead characters, 28% of films had female leads or co-leads.

Gender prevalence did vary by rating in 2013.[7] Only 1 film in the sample of 2013 movies was rated "G" for general audiences. As a result, the percentage of girls/women within this rating is not reported.

Looking at the three remaining ratings, R-rated films (31.2%) featured a higher percentage of female speaking characters than PG films (24.9%), with PG-13 (28.6%) holding a middle position.

In addition to rating, we looked specifically at how females were faring on screen in a few contested film genres: 1) action and/or adventure, 2) animation, 3) comedy, and 4) all others.[8] To categorize genre, Box Office Mojo designations were utilized. The percentage of females was calculated within each genre. To assess whether there has been any change over time, we conducted the same analysis on the 100 top-grossing films of 2007, 2010, and 2013.

Three trends are immediately apparent in Table 2. Action and/or adventure films depict girls and women in less than a quarter of all speaking roles. The years only differ by 3.9% between 2007 and 2013. Animation shows a bit more fluctuation, with an 9.8% increase between 2007 and 2010 followed by a 6.1% decrease. The larger deviation in animation may be due to the fact that very few films within this genre are released per year (2007=8 movies, 2010=7 movies, 2013=11 movies). Comedy only remained unchanged across the three years and depicted the largest percentage of female characters. All other genres changed very little (2007=30.9%; 2010=29.6%; 2013=29.9%), with female characters deviating less than 2% over time.
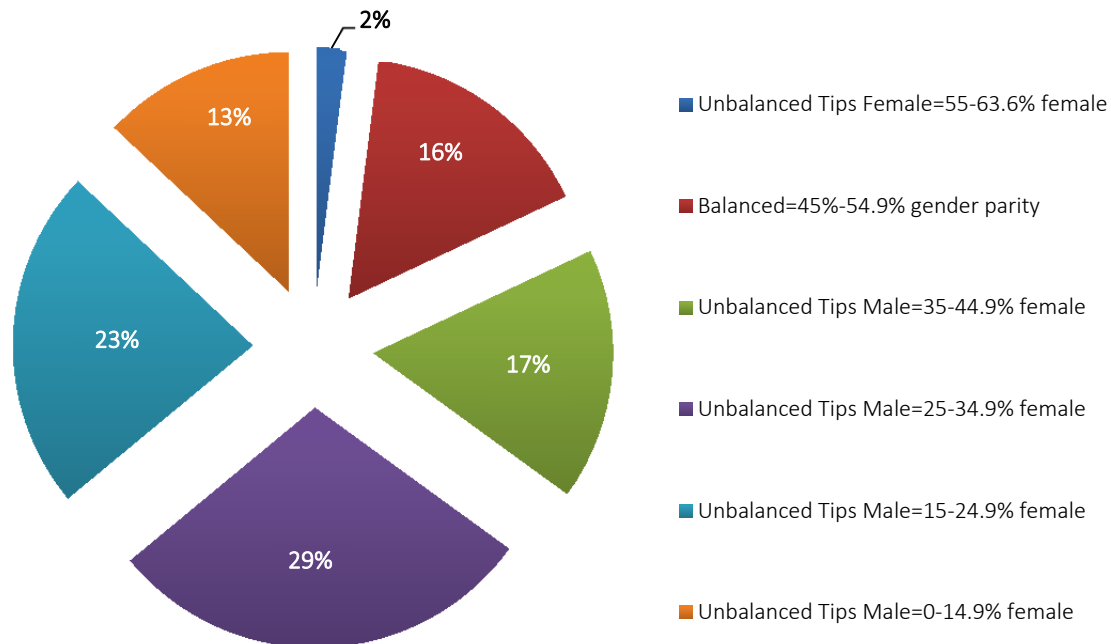
Table 2
Percentage of Females by Film Genre: 2007, 2010, 2013

	Action/Adventure			Animation			Comedy		
	2007	2010	2013	2007	2010	2013	2007	2010	2013
% of female characters	20%	23.3%	23.9%	20.9%	30.7%	24.6%	36%	36%	36%

Note: Genre was determined by using Box Office Mojo designations. The percentage of males can be determined by subtracting the percentage of females from 100%.

As another indicator of prevalence, we assessed the number of "gender balanced" movies in 2013 or those casting girls/women in 45-54.9% of all speaking roles (see Figure 1). Only 16% of movies featured gender parity. One film depicted no female speaking characters. Another 12% of movies portrayed females in less than 15% of the cast and 52% of the films featured girls and women as 15-34.9% of the cast. Only 2% of films featured more female than male characters.

Figure 1
Character Gender Prevalence Across 100 Top-Grossing 2013 Films

- Unbalanced Tips Female=55-63.6% female
- Balanced=45%-54.9% gender parity
- Unbalanced Tips Male=35-44.9% female
- Unbalanced Tips Male=25-34.9% female
- Unbalanced Tips Male=15-24.9% female
- Unbalanced Tips Male=0-14.9% female

Turning to behind the camera, we assessed the gender of every director, writer, and producer across the 100 top-grossing films of 2013.[9] A total of 1,374 filmmakers were credited sample wide. Less than a fifth (15.9%) of these content creators were women, which calculates into a gender ratio of 5.3 male directors, writers, and producers to every 1 female. Only 1.9% of directors, 7.4% of writers, and 19.6% of producers were women. Looking at the film as the unit of analysis, only 2 had a female director attached, 15 had a female writer attached, but 84 had a female producer attached. Across all six years, only 22 unique female directors worked in top-grossing films.

In terms of overtime trends, the percentage and number of 2013 female directors and female writers is at a 6-year low. The percentages in Table 3 are in stark contrast to the percentages in independent film. For example, 28.7% of directors and 26.4% of writers were female at the Sundance Film Festival in 2013.[10] As we noted in our previous research, females face a steep fiscal cliff as they move from telling stories in the independent sphere to more studio based content.[11] Research reveals that this huge drop off may be explained by a number of factors, such as the gendered nature of film financing, male-dominated decision making networks, and/or implicit gender biases in hiring practices.[12]

Table 3
Prevalence of Females Behind the Camera: 2007-2013

Prevalence	2007	2008	2009	2010	2012	2013
% of female directors	2.7% (*n*=3)	8% (*n*=9)	3.6% (*n*=4)	2.7% (*n*=3)	4.1% (*n*=5)	1.9% (*n*=2)
% of female writers	11.2% (*n*=35)	13.6% (*n*=35)	13.5% (*n*=38)	11.1% (*n*=29)	12.2% (*n*=34)	7.4% (*n*=20)
% of female producers	20.5% (*n*=174)	19.1% (*n*=164)	21.6% (*n*=183)	18.3% (*n*=160)	20% (*n*=166)	19.6% (*n*=196)
% of total (d/w/p) females	17% (*n*=212)	16.9% (*n*=208)	18.1% (*n*=225)	15.4% (*n*=192)	16.7% (*n*=205)	15.9% (*n*=218)
Gender Ratio	5 to 1	4.9 to 1	4.5 to1	5.5 to 1	5 to 1	5.3 to 1

Gender Portrayal: Age & Sexualization

Besides prevalence, we also captured the nature or way in which characters were presented on screen in 2013. We focus here on two characteristics: apparent age (i.e., 0-12 years, 13-20 years, 21-39 years, 40-64 years, or 65+ years) and hypersexualization (i.e., sexy attire, nudity, physical beauty).

Character gender and age were related (see Table 4).[13] Focusing on the adult category (21-39 years old), females were more likely to be depicted in this age bracket (53.9%) than were males (45.3%). In contrast, males (39.8%) were more likely than females (24.9%) to be middle aged (40 to 64 years of age). This finding is consistent with much of our other research and suggests that there is a "sell by date" for females in film.[14] No gender differences at or above 5% emerged between the remaining age groups.

It is also important to note one other trend in Table 4. Examining characters under 21, the movie industry is much more egalitarian. A full 42.9% of children (0-12 yr. olds) on screen were female. Of the teen characters, 41.2% were female and 58.8% were male. Clearly, the implicit gender biases that emerge in writing stories and casting characters are more germane to adults and middle-aged characters than those under 21.

Table 4
Character Age by Gender in Top-Grossing 2013 Films

Apparent Age	Males	Females
Child (0-12 years)	4.7% (*n*=141)	8.4% (*n*=106)
Teen (13-20 years)	5.5% (*n*=164)	9.1% (*n*=115)
Adult (21-39 years)	45.3% (*n*=1,348)	53.9% (*n*=684)
Middle Aged (40-64 years)	39.8% (*n*=1,184)	24.9% (*n*=316)
Elderly (65+ years)	4.6% (*n*=138)	3.9% (*n*=49)
Total	100%	100%

Overtime trends in the portrayal of adult characters' age are featured in Figure 2. The patterns are relatively stable over time. Slightly more than half of all female characters in film were between 21 and 39 years of age. This focus heightens the likelihood of women being cast in roles that center on their physical appearance, as we will see below. Less than a quarter of all female roles were for characters between the ages of 40 and 64, which may mean seeing substantially fewer successful middle-aged women than men on screen.

Figure 2
Adults Characters' Age by Gender: 2007-2013
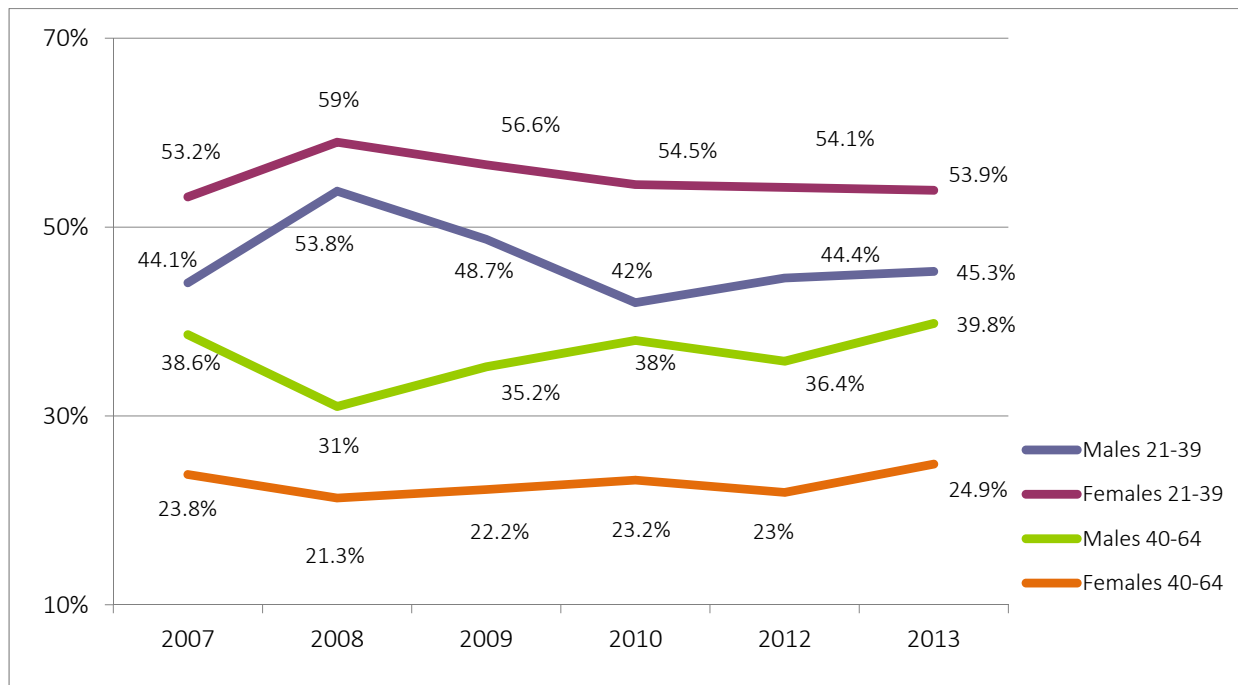
Focusing on sexualization indicators, pronounced gender differences emerged.[15] Females (30.2%) were far more likely than males (9.7%) to be shown in sexualized attire (i.e., tight or revealing clothing). Nudity, or exposing some or all skin between the chest and upper-thigh regions, varied with gender. Females (29.5%) were more likely than males to be shown with partial or full nudity (11.7%). It was also the case that females were more likely than males to be referenced as physically attractive (13.2% vs. 2.4%). Together, these results reveal that females are still functioning as adornment and eye candy in movies. These portrayals may have negative effects on some viewers, by communicating that females are to be valued for how they look rather than who they are. Or, viewing these types of depictions may prime or strengthen female viewers' level of self objectification, body shame, and/or appearance anxiety.[16]

Table 5 outlines the overtime patterns of female sexualization across the 6-year sample. On sexy attire, 2013 does not deviate by 5% from any of the other years. More variation is found on exposed skin, however. 2013, 2012, and 2010 represent an increase in the percentage of female characters' depicted

with partial or full nudity in comparison to 2007, 2008 or 2009. Finally, the percentage of female characters referenced as attractive is lower in 2013 than in 2007.

Table 5
Hypersexualization of Female Characters On Screen: 2007-2013

Hypersexuality	2007	2008	2009	2010	2012	2013
% in sexualized attire	27%	25.7%	25.8%	33.8%	31.6%	30.2%
% w/some exposed skin	21.8%	23.7%	23.6%	30.8%	31%	29.5%
% referenced attractive	18.5%	15.1%	10.9%	14.7%	Not Measured	13.2%

Note: Cells feature the percentage of females possessing a certain attribute. To illustrate, 30.2% of the female characters in 2013 were depicted in sexy attire. This means that 69.8% of females were not shown in clothes that were sexually revealing. The percentages of male characters are not featured in Table 5 but can be found in Footnote 17.

It becomes important to examine which female characters are being sexualized in film. In particular, we were interested in the patterns of female sexualization surrounding teens (13-20), adults (21-39) and middle-aged (40-64) characters. As shown in Table 6, teenaged and adult females were more likely than middle-aged females to be shown in sexy attire, with exposed skin, and/or referenced as physically attractive.[17]

Table 6
Female Sexualization by Age in Top-Grossing Films: 2013

	13-20 yr olds	21-39 yr olds	40-64 yr olds
% in sexy attire	39.4%	40.5%	18.8%
% partially/fully naked	37.4%	39.6%	18.5%
% referenced attractive	14.8%	16.1%	7.3%

Given the high percentage of female teen sexualization, we assessed overtime trends on these measures.[18] In 2013, we see a reversal in a three-year climb in teen hypersexualization. As shown in Figure 3 and 4, the percentage of female teens depicted in sexy attire or with exposed skin has dramatically increased between 2009 and 2012. In 2013, these percentages drop 17.2% and 18.4% from the previous year. Given that there are so few female teens in the sample (see Table 4), these yearly percentages may fluctuate based on portrayals in a small number of movies. Therefore, the results should be interpreted with caution.

Content Creator Gender & On Screen Portrayals

In this last section, we examined if content creator gender was related to gender prevalence on screen as well as female hypersexualization. Only two films had a female director attached. Because of the small sample size, we could not examine how director gender may relate to gender prevalence or portrayal. In

terms of writers, all of the films were separated into two categories: those featuring one or more female writers and those without any female writers. Then we calculated the percentage of female characters and their level of sexualization within each of these silos. The same sift was completed for producers.

Figure 3
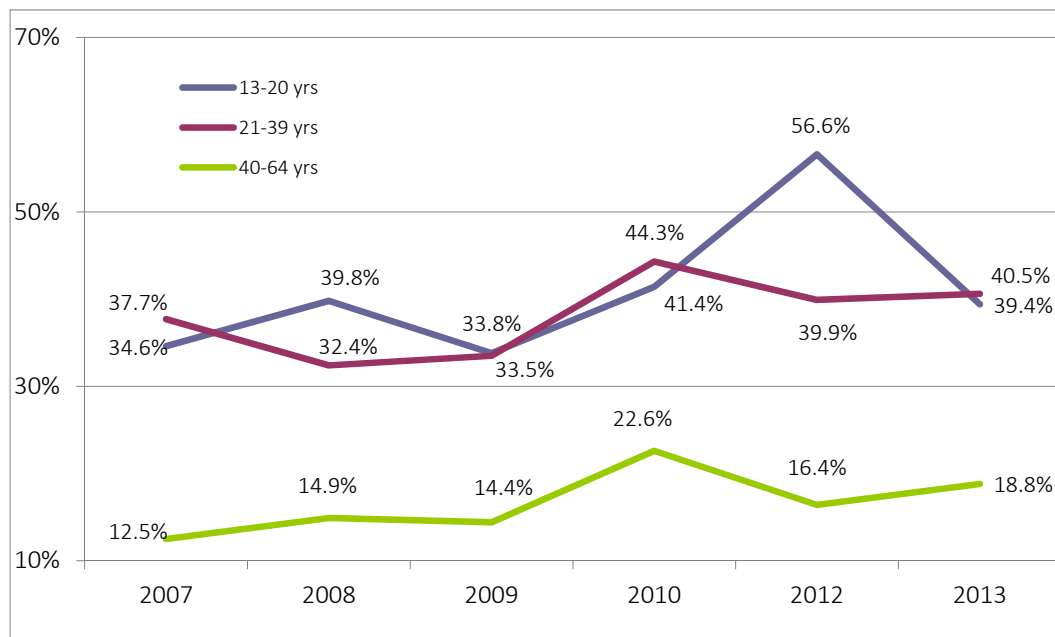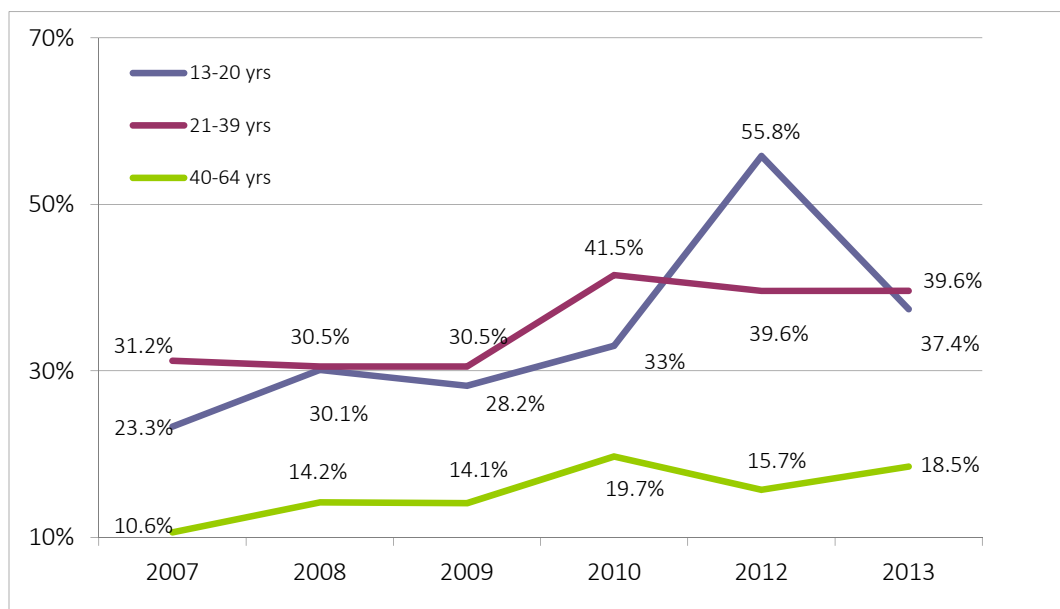Percentages of Females in Sexy Attire by Age: 2007-2013

Figure 4
Percentage of Females w/Some Exposed Skin by Age: 2007-2013

The gender of the writer or producer was not related to gender prevalence on screen.[19] This is somewhat counter to our previous research, especially with writers.[20] Next, we looked at two sexualization measures. The presence of a female writer was *not* associated with female hypersexualization. However, a statistically and practically significant effect emerged across sexually revealing clothing and nudity with producer gender. As shown in Figure 5, films with at least one female producer were *less likely* to depict female characters in sexy attire (9.1% difference) or partially/fully naked (10.6% difference) than were films with no female producers attached.

Figure 5
Percentage of Female On Screen Sexualization by Producer Gender
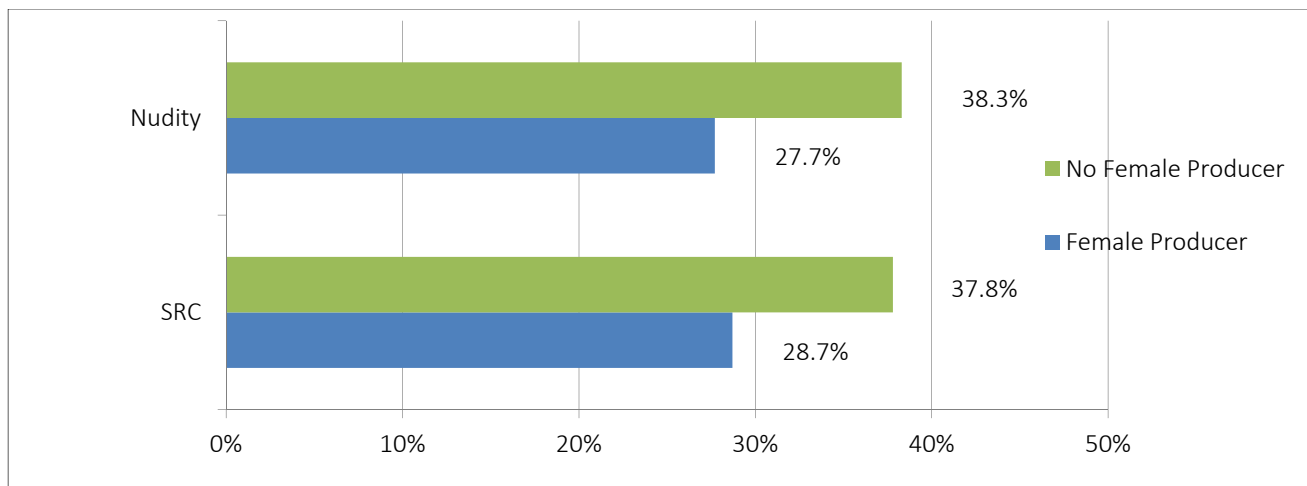
Conclusion

Across the findings outline above, four major trends are observed. First, the prevalence of female speaking characters in film has not meaningfully changed since 2007. As noted above, scholars have demonstrated that female representation in film content has remained stable for decades. Given the wealth of research on the topic, *the lack of female characters does not appear to be a problem that will self-correct over time*. Differences by genre reflect that action and adventure films are the worst offenders, including women in less than a quarter of all speaking roles. Despite ongoing efforts by activists and coverage of the disparity by journalists, films in this profitable genre remain inaccessible to women on screen and behind the camera. Decision-makers and content creators have an opportunity and perhaps an obligation to find places in their scripts and on our screens for girls and women who are currently missing.

Second, though they are less likely to appear on screen, females are still more likely to be sexualized than males in cinematic content. The stability of this trend across six years reveals another ongoing discrepancy in how women and girls are depicted. Females fill fewer roles and wear fewer clothes than males— communicating important information to viewers about their value to the story.

There are promising findings alongside the above disparities. After a five-year high in 2012 regarding the sexualization of teen female characters, our third trend reveals that films in 2013 did not follow the pattern observed previously. Teen sexualization dropped by more than 17% across two measures. This reversal is important, as some younger viewers may experience negative effects after viewing such depictions. These results further suggest that the sexualization of female characters is not a foregone conclusion—creative decisions can and do influence content.

This idea is reinforced by our fourth and final trend. The presence of a female producer is associated with a decrease in the sexualization of female characters. The relationship detected in 2013 mirrors similar findings from 2012 regarding directors. Adding women behind the scenes may contribute to real differences in how females are portrayed. Given the barriers faced by women who want to work in creative production roles, creating opportunities is one step toward changing the cinematic landscape.

In conclusion, little has changed across the terrain of popular films in terms of the prevalence and portrayal of female characters. Behind the camera, women remain a small percentage of the workforce in directing and writing roles. These findings shed light on crucial opportunities for decision-makers and filmmakers to match the demography of their creative constructions to that of the individuals filling the seats at movie theatres. Although half of movie ticket buyers may be female, this audience still does not see themselves reflected in what they see on the screen.

<div align="center">Footnotes</div>

[1.] This study is a follow up to our yearly *Gender Inequality Report*. See Smith, SL., Choueiti, M., Scofield, E., & Pieper, K. (2013). *Gender Inequality in 500 Popular Films: Examining On-Screen Portrayals and Behind-the-Scenes Employment Patterns in Motion Pictures Released between 2007 and 2012*. Media, Diversity, & Social Change Initiative: Annenberg School for Communication and Journalism, USC.

The sample of films was derived from Box Office Mojo. Only fictional films were included in the 100 top- grossing list. As such, two documentaries were not evaluated (*Kevin Hart: Let Me Explain; One Direction: This is Us*). Thus, we examined the top 102 films of 2013. The top-performing films were determined by domestic box office performance.

[2.] A character is defined as any living being that utters one or more words discernibly on screen or is referred to by name. In limited situations, we coded homogenous groups that spoke independently but sequentially on screen making their independent identity impossible to ascertain. Only 30 homogeneous groups were coded sample wide and were removed prior to analysis. Besides the independent/single speaking characters, the entire film was also a unit of analysis. At the movie level, *presentational style* (live, animated, both), *rating* (G, PG, PG-13, R), and *genre* (action/adventure, animated, comedy, all else) were evaluated. The first variable was measured by coders and the last two variables were assessed by senior members of the research team.

[3.] For each speaking character, a number of demographic and sexualization indicators were captured. We have detailed the definitions in previous reports (see Smith, Choueiti, Scofield, & Pieper, 2013). As a result, the variable conceptualizations and levels will only be briefly overviewed here. Each speaking character was evaluated for *form* (single, group), *type* (human, animal, supernatural creature, anthropomorphized supernatural creature, anthropomorphized animal), *gender* (male, female), *apparent age* (0-5, 6-12, 13-20, 21-39, 40-64, 65+), *apparent race/ethnicity* (White, Hispanic, Black, Native Hawaiian/Pacific Islander, Asian, Middle Eastern, Other or Mixed Race), *parental status* (not a parent, single parent, co parent, parent, relational status unknown), and *romantic relationship* (single, married, committed relationship/not married, committed relationship/status unknown, divorced, widowed).

A few sexualization variables also were measured. *Sexually revealing clothing* (SRC) refers to apparel that is tight or revealing (adapted from Downs & Smith, 2005) by design. Each character wearing clothes was coded as SRC present or absent. *Nudity* captured the amount of exposed skin between the high upper thigh and mid chest regions (see Downs & Smith, 2005). Characters were coded as showing no nudity, some nudity (i.e., exposed skin in chest, midriff, or buttocks/high upper thigh region; males portrayed as shirtless were partially naked); or full nudity (i.e., genital exposure or lacking clothing between chest and high upper thigh area; for females, topless was coded as full nudity as is nipple exposure through transparent garments). This variable was collapsed into two levels: no nudity vs. some nudity. Only characters with human-like bodies were evaluated on these variables.

Attractiveness refers to the physical desirousness of characters. This variable was measured by quantifying the number of verbal and/or nonverbal references to physical beauty a character receives. Self references to beauty do not count. Characters were coded as receiving no references, 1 reference (i.e., one verbal or nonverbal utterance), or 2 references (i.e., two or more verbal or nonverbal utterances). The latter two levels were collapsed prior to analysis.

It must be noted that all variables included two additional levels: not applicable and can't tell. Not applicable occurs when a character does not possess the trait being evaluated. For instance, some animals in films do not wear clothes. This is due to cultural norms within the film. As such, these types of characters would be coded as not applicable on sexually revealing clothing and nudity. Can't tell, on the other hand, is utilized when the character possesses a trait

but it is impossible to ascertain. A baby named Taylor is dressed in green and yellow. In these types of instances, the character would be coded "can't tell" on sex.

One final variable was assessed. *Role* referred to whether a character was the lead or co-lead in the film. This was evaluated by assessing which character(s) were the protagonist of the film, the main driver of the action, or whether the story focused on that character. Judgments were discussed with one of the authors or a senior member of the research team, and all films with a female lead or co-lead were checked by another research assistant to ensure accuracy. The first five minutes, inciting incident, and first plot point were used as determinants of the main character. Where there was doubt, the entire movie was viewed.

Research assistants (RAs) were recruited in the Fall of 2013 and Spring/Summer of 2014. A total of 71 students evaluated the sample of films. Prior to sample evaluation, the students underwent a rigorous classroom based training to learn the conceptual and operational definitions in the codebook. The same instructor (Choueiti) has trained all of the research assistants evaluating the 6-year sample. In a classroom environment, the RA's were taught how to unitize speaking characters, understand variable definitions, and apply levels of measures to speaking characters. During training, RAs also completed a series of diagnostics designed to test their unitizing and variable coding ability. These diagnostics served as the basis for reliability tests prior to evaluating the sample.

Once fully trained and reliable, students were assigned content to code in the Media, Diversity, & Social Change Lab at USC Annenberg. All coding was completed independently. Each film was evaluated by three different RAs and reliability was computed on each film in the sample. Group discussions were held on each movie to discuss unitizing and variable coding disagreements, with the second author and senior members of the research team adjudicating the process. Once discrepancies were resolved, a "final" file was created and "quality checked" by a fourth coder. The quality checked file was then entered into SPSS for analysis.

Unitizing reliability was calculated per film, with percentage of agreement determined when 2 out of 3 coders evaluated the same speaking character. Across the sample, we report unitizing agreement in quartiles by reporting the percentage of speaking characters identified by two thirds of the coding group: Q1 (25 films=100-88.71%), Q2 (26-50 films=88.37-83.33%); Q3 (51-75 films=83.33-78.22%); Q4 (76-99 films=77.63-60%). Only 5 films had unitizing agreement below 70% (5 films=67.5-60%). One film in the sample was coded by only one coder (the second author), therefore reliability could not be assessed.

Variable coding was calculated using the Potter & Levine-Donnerstein (1999) formula for multiple coders. For each variable, we report the sample wide median as well as the range (minimum, maximum): *form* (1.0, *range*=1.0), *type* (1.0, *range*=.64-1.0), *age* (1.0, *range*=.65-1.0), *sex* (1.0, *range*=1.0), *apparent race/ethnicity* (1.0, *range*=.66-1.0), *parental status* (1.0, *range*=.64-1.0), *romantic relationship* (1.0, *range*=.65-1.0), *sexually revealing clothing* (1.0, *range*=.61-1.0), *nudity* (1.0, *range*=.63-1.0), *attractiveness* (1.0, *range*=1.0), *style of presentation* (1.0, *range*=.29-1.0).

[4.] Relationships between variables were measured using chi-square analyses. Differences were determined in two steps. First, an analysis had to yield a significant *p* value. Due to the large sample size, the probability level was set at $p < .05$. Second, the difference between variables had to be at least 5%. This two step process will prevent us from reporting minimal percentage shifts (1-4%) that may be statically significant but practically meaningless.

[5.] Smith, S.L., Granados, A., Choueiti, M., Erickson, S., & Noyes, A. (2010). *Changing the Status Quo: Industry Leaders' Perceptions of Gender in Family Films.* Report prepared for Geena Davis Institute for Gender and Media. USC Annenberg: Media, Diversity, & Social Change Initiative.

[6.] Powers, S. P., Rothman, D.J., Rothman, S. (1996). *Hollywood's America: Social and Political Themes in Motion Pictures.* Boulder, CO: Westview Press.

[7.] A chi-square yielded a significant relationship for *character gender* (male, female) and *rating* (G, PG, PG-13, R): X^2(3, 4,506)=9.96, *p* <.05, V*=.05.

[8.] To categorize genre, Box Office Mojo designations were utilized. Films listed as action, adventure or action/adventure were categorized as such. We also included any genre with action or adventure modifying another genre descriptor. Only "family adventure" was excluded from this category, and relabeled. All animated films were listed as such, save one (*Walking With Dinosaurs*). This film was re-categorized as animation. For comedy, there were certain instances were we had to consult IMDb.Pro to determine how "comedy/drama" and "family movies" should be categorized. Most instances of comedy/drama and family films were coded as comedies. Films not fitting into one of these two categories were coded as "all else." We previously reported (Smith, 2007) that 33.5% of characters in comedy films were female in 2007. Genre distinctions were made using Box Office Mojo, IMDb.Pro, and The Numbers (www.the-numbers.com). In that report, five genres were used.

[9.] To ascertain diversity behind-the-camera, IMDb.Pro credit listings were used to obtain the directors, writers, and producers associated with each film. Each individual was allowed to appear only once for each production category, but could appear multiple times across a film (e.g., as director, writer, etc.)

Once the list of 1,374 individuals was generated, biological sex was assessed for each person using publicly available sources (e.g., StudioSystem/inBaseline, IMDb.Pro.com, news sources, personal websites). For two people, biological sex could not be ascertained. In one of these cases, babynames.com was consulted to determine the traditional biological sex of the first name of the individual. The race/ethnicity of directors was examined by using photographic evidence of each director. In some cases, additional information was sought to confirm a director's race/ethnicity (i.e., family background per Wikipedia; StudioSystem/inBaseline database).

[10.] Smith, S.L., Pieper, K., & Choueiti, M. (2013). *Exploring the Barriers and Opportunities for Independent Women Filmmakers*. Sundance Institute/WIF. Smith, S.L., Pieper, K., & Choueiti, M. (2014). *Exploring the Barriers and Opportunities for Independent Women Filmmakers - Phase II*. Sundance Institute/WIF.

[11.] Smith, S.L., Pieper, K., & Choueiti, M. (2013, 2014).

[12.] Smith, S.L., Pieper, K., & Choueiti, M. (2013, 2014).

[13.] The analysis between *apparent age* and *character gender* was significant: X^2(5, 4,245)=109.30, *p* <.05, V*=.16.

[14.] Smith, S.L., Granados, A., Pieper, K., & Choueiti, M. (forthcoming). Sell by Date? Examining the Shelf Life and Effects of Female Actors in Popular Films. *Science of Cinema*. See also, Smith, S.L., Choueiti, M., Scofield, E., & Pieper, K. (2013).

[15.] Character *gender* was significantly related to *SRC* (no, yes), *nudity* (none, some), and *attractiveness* (no, yes) respectively: X^2(1, 4,181)=275.85, *p* <.05, phi=.26; X^2(1, 4,182)=196.52, *p* <.05, phi=.22; X^2(1, 4,506)=207.39, *p* <.05, phi=.22.

[16.] 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*(2), 366-386. Harper, B., & Tiggemann, M. (2008). The effect of thin ideal media images on women's self-objectification, mood, and body image. *Sex Roles*, *58*(9-10), 649-657. Fredrickson, B. L., & Roberts, T.A. (1997). Objectification theory: Toward understanding women's lived experiences and mental health risks. *Psychology of Women Quarterly*, *21*, 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), 17-27.

[17.] The hypersexualization of male characters is as follows: *sexually revealing clothing* (2007=4.6%; 2008=5.1%; 2009=4.7%; 2010=7.2%; 2012=7%; 2013=9.7%); *nudity* (2007=6.6%; 2008=8.2%; 2009=7.4%; 2010=9.4%; 2012=9.4%; 2013=11.7%); *attractiveness* (2007=5.4%; 2008=4.1%; 2009=2.5%; 2010=3.8%; 2012=not measured; 2013=2.4%).

A chi-square yielded a significant relationship for *character age* (teen, adult, middle aged) and *sexually revealing clothing* (no, yes); X^2(2, 1,069)=46.16, *p* <.05, V*=.21; *nudity* (none, some), X^2(2, 1,069)=43.73, *p* <.05, V*=.20; and *physical beauty* (no, yes); X^2(2, 1,115)=14.58, *p* <.05, V*=.11.

Table 7
Male Sexualization by Age in Top-Grossing 2013 Films

Indicator	13-20 years	21-39 years	40-64 years
% in sexy attire	15.5%	10.7%	8.4%
% partially or fully naked	18.6%	13.6%	9.6%
% referenced attractive	8.5%	3%	1.4%

[18.] Similar to our last report (Smith, S.L., Choueiti, M., Scofield, E., & Pieper, K., 2013), we also examined male sexualization by *age* (teens, adults, middle aged) in 2013 films (see Table 7 above). Both analyses were significant: *sexually revealing clothing*, X^2(2, 2,541)=8.49, *p* <.05, V*=.06; *nudity*, X^2(2, 2,541)=14.94, *p* <.05, V*=.08; *attractiveness*, X^2(2, 2,696)=30.75, *p* <.05, V*=.11 . Male teens were more likely to be depicted in sexy attire (15.5%) than were middle aged (8.4%) males. Adult males fell in between (10.7%) these two point statistics. For nudity, a higher percentage of male teens (18.6%) than middle-aged males (9.6%) were shown with exposed skin. For trends from 2010 and 2012, see Footnote 12 in the Smith, Choueiti, Scofield, & Pieper, 2013 *Gender Inequality Report*.

[19.] The chi square analysis for *female producer* (no, yes) and *character gender* (male, female) was significant, X^2(1, 4,506)=6.38, *p* <.05, phi=-.04. However, the difference between percentages failed to meet the 5% cut off. The analysis for *female writer* (no, yes) and *character gender* (male, female) was not significant (*p* =.119). For *producer gender*, the analysis was significant for female *SRC* and *nudity*, respectively: X^2(1, 1,248)=6.86, *p* <.05, phi=-.07; X^2(1, 1,248)=9.33, *p* <.05, phi=-.09.

[20.] Smith, S.L., Choueiti, M., Scofield, E., & Pieper, K. (2013).

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Harnisch Foundation/MDSCI Research Team Interns

Allison Begalman	Katherine Neff
Amanda Brooker	Katie Jagodka
Anna Solow-Collins	Monica Ramsy
Ashley Chao	Nick Cuccia
Bryn McFadden	Rachel Zacuto
Cathy Wang	Sameer Suri
Christine 'Heechung' Kim	Teddy Fogelman
Emerald Douglas	Vanessa Villanueva
JeeYun 'Sophia' Baik	

USC Undergraduate and Graduate Research Team

Razan Al Marzouqi	Janet Ocampo
Christopher Allison	Arisa Ogino
Therese Anders	Holger Paas
Lisa Battaglia	Matthew Padavick
Aimee Bennett	Melody Pakravan
Nisha Bhikha	Gabriel Rocha
Yoobin Cha	Raquelle Ross
Angel Choi	Sam Rothschild
Stella Chung	Yujin Seo
Maria De La Garza	Avital Shoomer
Alexandrea Desrosiers	Megan Singson
Samantha Dickens	Crystal Smith
Jessica Duncan	Christine Song
Jacqueline Fernandez	Jaide Stepter
Alexandra Fong	Hannah Stetson
Artur Galstyan	Kayla Takemoto
Emani Glee	Sareen Tavidian
Cory Grzechowiak	Aja Thornton
Lucy Guo	Artur Tofan
Sarah Hempel	Allison Toh
Samantha Hiller	Sadie 'Teagan' Trautwein
Cody Hock	Kymberly Van Der Weyde
Yijing 'Sally' Hong	Zhongyue 'Sabrina' Wang
Audrey Joung	Bridgette Webb
Jeremy Katchen	Kevin Yao
Edward Lau	Tessa Zeman
Alix Lipson	Ye Zi

Appendix A
List of 2013 Films in the Sample

The Hunger Games: Catching Fire	Jackass Presents: Bad Grandpa	Tyler Perry's Temptation: Confessions of a Marriage Counselor
Iron Man 3	Pacific Rim	
Frozen	This is the End	The Call
Despicable Me 2	Olympus Has Fallen	Pain and Gain
Man of Steel	42	Gangster Squad
Gravity	Elysium	Jurassic Park 3D
Monsters University	Planes	The Internship
The Hobbit: The Desolation of Smaug	The Lone Ranger	Instructions Not Included
Fast & Furious 6	Oblivion	Snitch
Oz The Great and Powerful	Insidious Chapter 2	Riddick
Star Trek Into Darkness	Saving Mr. Banks	A Haunted House
Thor: The Dark World	Turbo	47 Ronin
World War Z	2 Guns	August: Osage County
The Croods	White House Down	Philomena
The Heat	Mama	The Family
We're the Millers	Safe Haven	Walking with Dinosaurs
American Hustle	The Smurfs 2	Carrie
The Great Gatsby	The Best Man Holiday	Texas Chainsaw 3D
The Conjuring	Percy Jackson: Sea of Monsters	R.I.P.D.
Identity Thief	A Good Day to Die Hard	Blue Jasmine
Grown Ups 2	Warm Bodies	Side Effects
The Wolverine	Jack the Giant Slayer	Scary Movie 5
Anchorman 2: The Legend Continues	The Purge	The Mortal Instruments: City of Bones
Lone Survivor	Last Vegas	
G.I. Joe: Retaliation	Ender's Game	Delivery Man
Cloudy with a Chance of Meatballs 2	Prisoners	Grudge Match
	After Earth	Kick-Ass 2
Now You See Me	The Secret Life of Walter Mitty	Dallas Buyers Club
The Wolf of Wall Street	Escape From Planet Earth	Rush
Lee Daniels' The Butler	12 Years a Slave	The Host
The Hangover Part III	Free Birds	The World's End
Epic	Hansel and Gretel: Witch Hunters	21 and Over
Captain Phillips	Evil Dead	Her
	Red 2	Escape Plan
	Tyler Perry's A Madea Christmas	Don Jon