Geena Davis Institute on Gender in Media

Gender Disparity On Screen and Behind the Camera in Family Films;
The Executive Report

Stacy L. Smith, Ph.D.

&

Marc Choueiti

University of Southern California
Annenberg School for Communication & Journalism
3502 Watt Way, Suite 222
Los Angeles, CA 90089
stacy.smith@usc.edu

The purpose of this study is to examine gender portrayals in family films rated G, PG, or PG-13 by the Motion Picture Association of America (MPAA). Theatrical release of the films occurred between September 5th, 2006 and September 7th, 2009 in the United States and/or Canada.[1] For G-rated films in the sample, all English language fictional narratives (*n*=22) released across a three year time frame are content analyzed. We did not examine any general audience foreign films (*n*=2) or documentaries (*n*=9). For PG and PG-13 movies, the 50 top-grossing movies based on domestic box office revenue within rating are assessed. Thus, a total of 122 films released by 18 different distributors are examined for gender portrayals in this investigation.

The major unit of analysis in this study is the independent speaking character. For a character to be coded, s/he/it has to utter one or more discernable words on screen or be referred to by name.[2] Each speaking character is assessed for demographic[3] (age, biological sex) and appearance[4] indicators (sexy attire, exposed skin, chest/waist size, body realism, physical beauty). Completion of coder training and all evaluation of film content occurred at the Annenberg School for Communication & Journalism at USC.[5] Below, we examine key areas of gender as it relates to motion picture content. We also assess whether gender prevalence may be changing over time by comparing our current findings to previous results. Only findings that are statistically significant ($p < .05$) and show differences of 5% or greater between percentages are reported.[6]

Gender Prevalence and Stereotypes in Film

A total of 5,554 distinct speaking characters appeared across the sample, with 29.2% female (*n*=1,624) and 70.8% male (*n*=3,930). Put differently, 2.42 males are depicted to every 1 female. Rating is statistically but trivially (less than 5%) associated with gender; G (32.4% female), PG (30% female), and PG-13 (27.7% female).[7]

Beyond prevalence, we also examine how males and females are portrayed in film. Lookism still pervades cinematic content. One manifestation of lookism is illuminated when assessing gender and age.[8] A higher percentage of females than males are depicted under 21 (20.5% vs. 12.5%) and between 21-39 years of age (54.3% vs. 49.3%). This trend reverses for characters 40 to 64 years old, with a higher percentage of males (33.7%) than females (20.2%) shown in this

chronological bandwidth. No meaningful difference emerged by gender for characters 65 years of age or older (males=4.4%, females=5.0%).

Four out of six appearance-related measures vary with gender. As depicted in Figure 1, a higher percentage of females than males (24% vs. 4%) are shown in sexy, tight, or alluring attire.[9] Females are more likely than their male counterparts to be physically attractive (14% vs. 3.6%) and portrayed with some exposed skin between the mid chest and upper thigh regions (18.5% vs. 5.6%).[10] Though not depicted, waist size is also related to gender with a higher percentage of females than males shown with a small waist (22.9% vs. 4.5%). The percentage of characters with a large chest (males=15.3%, females= 12.6%) or an unrealistic body ideal (males=2.9%, females=7.5%) varies significantly -- but not meaningfully (less than 5%) -- with gender.

Figure 1
Appearance Indicators by Character Gender
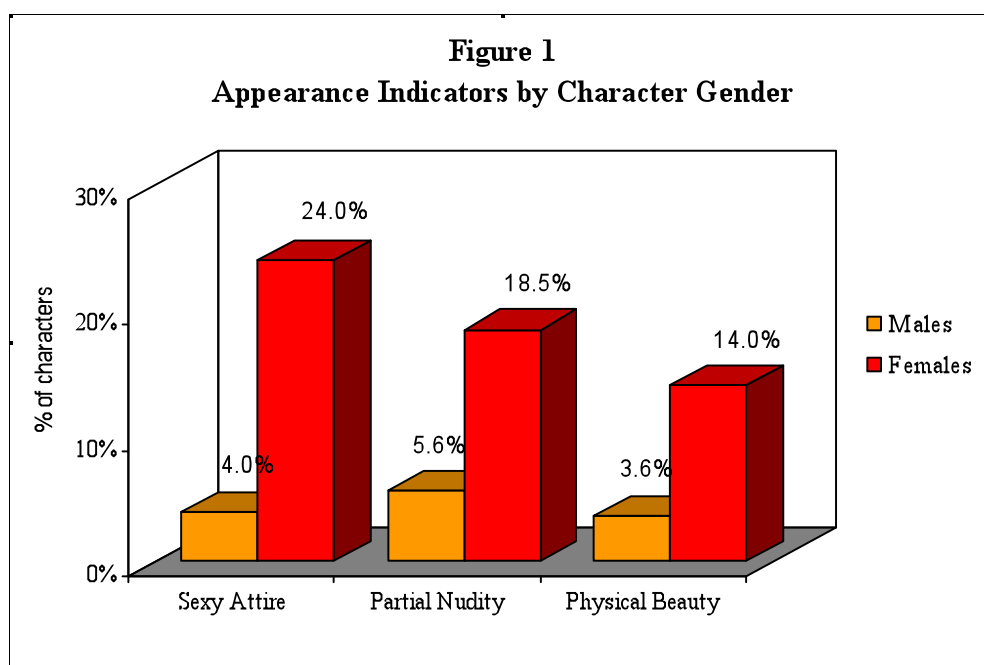
Women as Content Creators

We also examined the biological sex of content creators (e.g., directors, writers, producers) working behind-the-scenes (b-t-s) across the 122 films. Using information gleaned from online sources, the biological sex of 1,565 directors, writers, and producers was ascertained.[11] Only 7% (*n*=10) of directors, 13% (*n*=56) of writers, and 20% (*n*=200) of producers are female (see Figure 2). Stated in another way, 93% (*n*=134) of directors, 87% (*n*=376) of writers, and 80% of producers (*n*=789) are male. Taken together, these numbers calculate into a ratio of 4.88 males to every one female in key production occupations. If the film is the unit of analysis (rather than the individual), a total of 8.2% of the movies feature a female director, 32% feature at least one female writer, and 80.3% feature at least one female producer.

Next, we assessed whether the biological sex of content creators is related to on screen portrayals of character gender.[12] As depicted in Figure 3, a higher percentage of girls/women are shown on screen when one or more females are involved directing or writing films. In fact, a 10.4% difference is observed for on screen girls/women when one or more females are involved in the writing process. A significant but trivial (less than 5%) association is observed for producer

gender and character gender. In comparison to the percentage of females on screen in films with only male producers (26.3%), the percentage of females on screen when one or more women produce films is 29.9%.

Figure 2
Occupational Title by Biological Sex
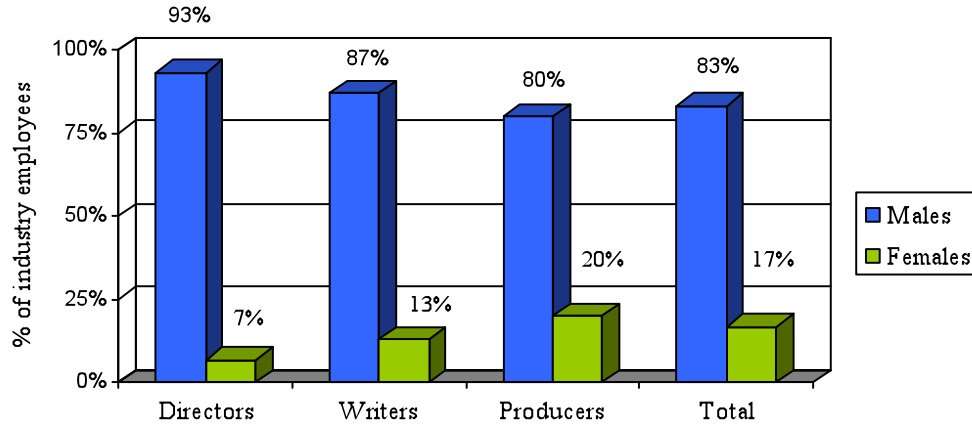
These findings are somewhat consistent with our other research on popular motion picture content and Academy Award® Best Picture Nominated films.[13] Overall, the results suggest that b-t-s females may be advocating for and/or casting more on screen girls/women than b-t-s males. It may also be the case that studios are more comfortable allocating "female-oriented" stories and scripts to female writers and directors.

Figure 3
Percent of Female Characters by Presence of Female(s) Behind-the-Scenes
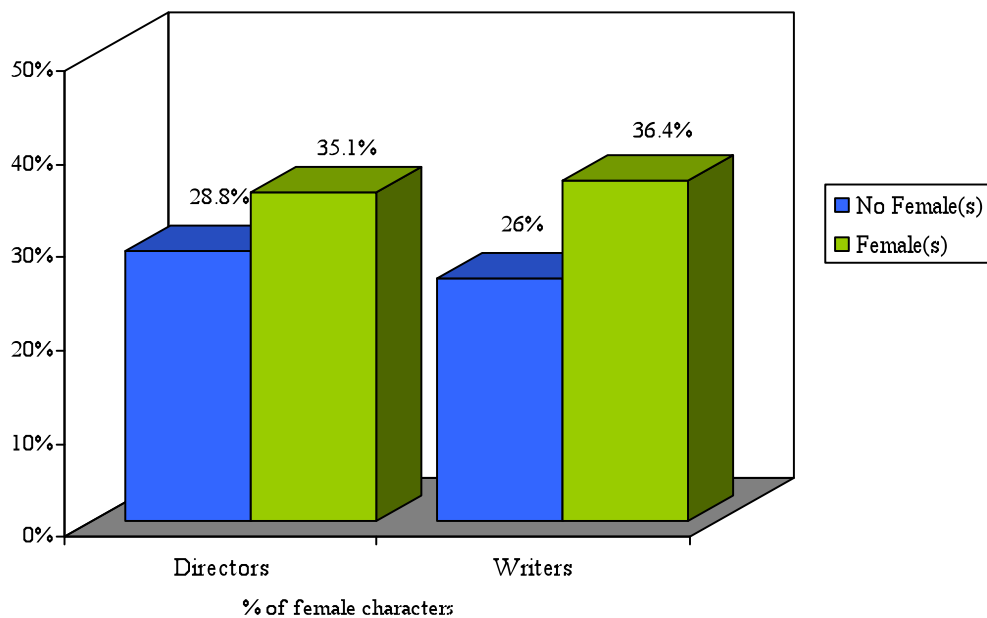
Gender Trends across Two Decades

Here, we compare the percentage of females found in this investigation to the percentage of females found in our earlier work. In a previous study, we examined gender roles in 300 top-grossing G, PG, and PG-13 films theatrically-released between January 1st, 1990 and September 4th, 2006.[14] Our sample in this study picks up right where the last one left off.

This content analysis is not an exact replication of our earlier work, however. We have made changes in the coding process and altered some variables.[15] These changes were made for another content study prior to being commissioned by See Jane to conduct this one. Resultantly, longitudinal comparisons should be interpreted with caution.

That said, we still wanted to overview trends in the prevalence of males and females across a 20-year period of time. This seemed prudent given that biological sex is one variable we have not changed between investigations. By merging samples, we categorized movies by rating and release date into one of four epochs of time: 1990-95, 1996-00, 2001-06, 2006-09. All documentaries and re-releases were excluded prior to analysis. Below, we assess how character gender distributes over time within G, PG, and PG-13 rated films.

G-Rated Films. The sample of G-rated films needed adjustment prior to analysis. The current study (2006-09) featured the total population of first run general audience films released (*n*=21, with one re-release removed) between September 5th 2006 and September 7th 2009. The earlier sample (1990-06) spanned almost 17 years and contained 86 "top-grossing" or most popular first run fictional G-rated films.[16] When it comes to gender, the total population of cinematic content (current study) may look very different than top performers at the box office (prior study).[17] As such, any longitudinal analysis would yield inconclusive results because epochs of time are confounded with types of films (total population vs. top grossing).

This problem was remedied by assessing the total population of first run G-rated films not captured in our original study (1990-06). To this end, we purchased a list from Rentrak demarcating all the general audience films released across almost 20 years. After exclusions,[18] a total of 150 first run English language fictional G-rated films were theatrically-released in the U.S. and/or Canada between January 1st 1990 to September 7th 2009. We had already coded 107 of these movies, 86 from our earlier study (1990-06) and 21 from our current study (2006-09). This left an additional 43 G-rated films to evaluate. Summing up, we assessed the biological sex in every distinct speaking character across roughly 20 years of G-rated films.

What did we find? Though approaching significance, no statistical difference (*p* < .05) emerged for gender over time.[19] As shown in Figure 4, the percentage of females in films released from 2006-09 (32.6%, *n*=262) was marginally higher than the percentage of females in films released from 1996-00 (27.4%, *n*=392). During 2001-06, the percentage of girls/women on screen held a middle position (28.7%, *n*=396) between these two point statistics. It must also be noted, however, that the percentage of females in 2006-09 is only 2.7% higher than the percentage of females in 1990-95 films (29.9%, *n*=339). Thus, very little change has taken place across almost twenty years!

Firgure 4
Percentage of Female Characters by Release Date and Rating
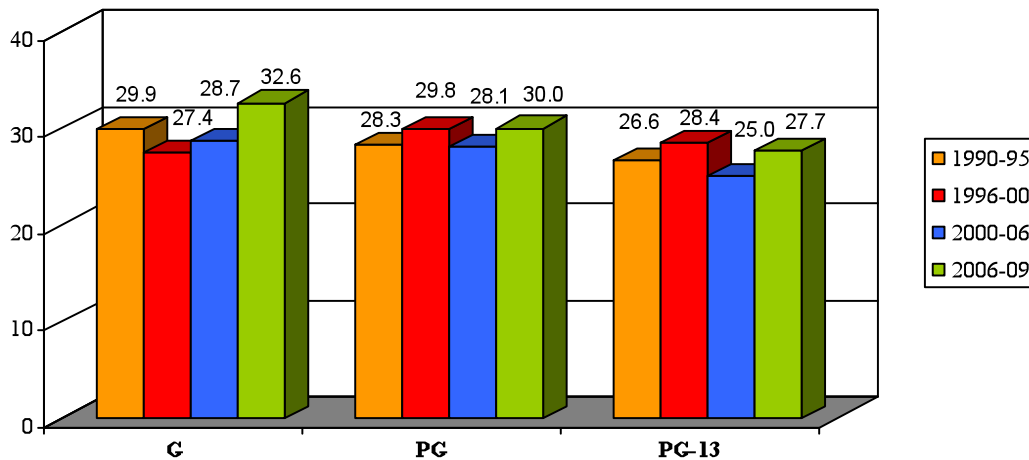
Note: A total of 150 G, 148 PG, and 150 PG-13 films are included by rating in Figure 4 analyses. Only females are reported, though males figured into the analyses. No documentaries, re-releases, or foreign films are included in Figure 4 calculations. Gender analyses were conducted within rating.

PG & PG-13 Films. Unlike G-rated films, the samples of PG and PG-13 movies did not need adjustment. After removing two rereleases, a total of 148 top-grossing PG films are examined for gender prevalence over time.[20] No significant difference emerged (see Figure 4). [21] A total of 29.1% of all speaking characters are female in PG films across roughly 20 years: 28.3% (1990-95, *n*=321 female characters); 29.8% (1996-00, *n*=257); 28.1% (2001-06, *n*=475); and 30% (2006-09, *n*=630 characters).

A similar pattern appeared across the 150 top-grossing PG-13 films,[22] which approached but was not statistically significant (see Figure 4). Just over a quarter (26.8%) of all speaking characters in PG-13 fare are female, with the difference between epoch percentages ranging from .7% to 3.4%: 26.6% (1990-95, *n*=143 female characters); 28.4% (1996-00, *n*=399); 25% (2001-06, *n*=590); and 27.7% (2006-09, *n*=730). Summing across all three ratings, the findings show little deviation or change has occurred over time.

Conclusion

The purpose of this study was to examine gender roles in theatrically-released family films between 2006 and 2009. The findings suggest that gender hegemony is still alive and well in the movie business. Only 29.2% of all speaking characters are female across 122 G, PG, and PG-13 films theatrically-released between 2006 and 2009. This point statistic of girls/women in film is surprising, given that females comprise just over half of the United States population.

When females do appear on screen, it is sometimes in an appearance centric light. Females are more likely than their male counterparts to be young, scantily clad, and attractive. Such portrayals may contribute to and/or reinforce the objectification and sexualization of

girls/women in society, a concern documented recently by a task force of the American Psychological Association.[23]

There are multiple pathways to changing the nature of gender portrayals on the silver screen. The easiest, however, may be working with content creators. Our findings in this study and others [24] show that when females occupy leadership positions behind the camera the number of roles for girls/women on screen increases significantly. Executives responsible for green-lighting pictures are encouraged to think about gender diversification in their hiring practices of above-the-line personnel.

Overall, the findings from the current study show that gender imbalance is still ruling and reigning behind and in front of the camera in G, PG, and PG-13 films. A steady diet of viewing these types of depictions may send the message that girls are less valuable and capable than boys. With time and repeat viewing, young viewers may adopt or even fail to notice the lop-sided view of gender in the "reel" world. Even worse, heavy exposure to these skewed patterns may become so normal to audiences that they do not see the need for gender parity in the media or industry change. Future research should explore these potential linkages and the role cinematic content plays in young viewers' development.

[1.] The list of 2006-2009 films was purchased from Rentrak Corporation. Release dates and distributor information were also provided on the list.

[2.] Coders used cast lists from IMDb.Pro as well as closing credits to facilitate the accuracy of evaluating independent speaking characters. Besides single characters, we also coded groups. Group characters are those that share the exact same physical appearance but speak independently making their unique identity impossible to ascertain and their number difficult to quantify (e.g., Oompa-loompas). Characters fitting this description are coded as a single line of data, the functional equivalent to one speaking character. There were only 23 groups across the entire sample, with 85.7% male (*n*=18) and 14.3% (*n*=3) female. In two instances, the gender of the group was not ascertainable. The group data are not included in any of the analyses reported above. For all single speaking characters, a series of measures are evaluated. Only a subset of all variables is reported below.

[3.] Three variables captured the demography of speaking characters. Each speaking character is coded for *form* (single vs. group) and *biological sex* (male, female). *Age* is categorized as 0-5, 6-12, 13-20, 21-39, 40-64, or 65+. At the analysis level, this variable was collapsed into four levels: under 21, 21-39, 40-64, or 65+.

[4.] Appearance is measured with multiple indicators, with some derived from Downs, E. & Smith, S. L. (2009). Keeping abreast of hypersexuality: A video game character content analysis. *Sex Roles*. http://www.springerlink.com/content/1646t346 76837317/ fulltext.pdf *Sexually revealing clothing* refers to alluring attire designed to appeal to another character and is measured as present or absent. *Nudity* captures the amount of flesh shown between mid chest and upper thigh region. Characters are coded for the highest amount of nudity shown: none, some (exposed skin in chest, midriff, or upper thigh region) or full (body with transparent or no garment covering; for females a bare chest is full nudity). Almost all instances of nudity (*n*=462) refer to partial exposure (*n*=445) or "nudity lite." Thus, very few instances of full nudity (*n*=17) occurred across the sample of films.

Chest size assessed the expansiveness of the breast region for females and pectoral and shoulder region for males. Chest size was coded as small (flat or lacking definition/shape for males and females), medium (average shapeliness or curves for males, bra size large B or C for females), or large (excessive muscularity for males, a bra size of D or higher for females). At analysis, the variable was collapsed into large vs. not large. *Waist size* referred to the circumference of the midsection and was coded as small (concave and/or no/minimal body fat), average (slightly concave or convex), or large (convex midsection due to an excess of fat). For analysis, this variable was collapsed into small vs. not small. *Body ideal* captures the level of realism associated with human-like bodies. Unrealistic ideals refer to the improbable hourglass figure for females and muscularized inverted triangle for males. Ideal is coded as present or absent.

Attractiveness refers to verbal statements (i.e., you are so pretty, he is hot!) and/or nonverbal actions (i.e., staring, cat calls) that communicate the physical desirousness of another character. Characters are coded as very attractive (two or more comments/nonverbal gestures), attractive (one comment/nonverbal gesture), or not attractive. Later, we collapsed this variable into two levels: attractive vs. not attractive. *Thinness* refers to the lack of body fat a character possesses.

Using 7-point line drawings from the body image literature (modified version of Collins, 1991 scales) that display a girl/woman or boy/man from excessively thin to obese, coders are asked to rate the character as extremely thin, thin, or not thin (average or larger). We later collapsed these categories into thin vs. not thin.

It must be noted that across all demographic and appearance measures, two additional coding options are available: can't tell (not enough information) and not applicable (not a relevant judgment for the type of character). For example, only characters that possessed human-like bodies were evaluated for the appearance indicators save physical beauty.

[5.] Undergraduate research assistants (RAs) in the Spring (*n*=27), Summer (*n*=4), and Fall (*n*=35) semester of 2009 as well as the Spring semester of 2010 (*n*=23) participated in the evaluation of the films in the sample. In a classroom-style context, one of the study's authors (Choueiti) trained coders on how to unitize characters and apply measures. Lab assignments are part of the training process and vary by genre. All practice coding is completed on content outside the sample. For the Spring, Summer, and Fall of 2009, the diagnostics (*n*=4 or 5 films, e.g., *Sleepless in Seattle, Cruel Intentions, Vantage Point*) involve complete films. Research assistants in the Spring of 2010 coded 4 complete films as well as four separate 15 minute movie segments for their 3rd through 6th diagnostics.

For training unitizing agreement, the following percentages reflect characters assessed in a given diagnostic by at least 80% of the coders: Spring 2009 (73.1%, 70.6%, 67.9%, 50.0%); Summer 2009 (80.0%, 79.6%, 76.0%, 56.4%, 91.3%); Fall 2009 (73.2%, 72.1%, 65.6%, 66.7%); and Spring 2010 (72.7%, 59.4%, 52.9%, 53.9%, 70.6%, 70.0%, 42.5%, 70.7%). Using the Potter and Levine-Donnerstein (1999) formula, reliability coefficients were computed for every measure within each diagnostic. There were a total of 171 median coefficients for the 10 variables and 16 (9.4%) were between .60 and .69. One measure fell below .60 (*body realism*, .56 on one diagnostic). Based on these figures, coders were adequate in unitizing characters and applying judgments.

After training, coders were organized into groups of three to six and randomly assigned the exact same films to evaluate independently. Once finished, reliability and unitizing agreement per film was calculated. Within quarters (i.e., *Q1* = top 25% of sample, *Q2* = 25%-50% of sample, etc.) of the sample, we computed the number of agreed upon lines per film seen by all but one coder in each group: (*Q1 range*=100%-85.71%, *Q2 range*=85.29%-76.32%, *Q3 range*=76.09%-70.59%, *Q4 range*=70.45%-43.94%). Nine films (7%) had less than 60% of characters seen by all but one coder. Relying on the Potter and Levine-Donnerstein (1999) formula, the following are median reliability coefficients across the sample: *form* (100%, *range*=100%), *age* (100%, *range*=59%-100%), *sex* (100%, *range*=100%), *sexually revealing clothing* (100%, *range*=74%-100%), *nudity* (100%, *range*=80%-100%), *chest size* (100%, *range*=63%-100%), *waist size* (100%, *range*=58%-100%), *body realism (*100%, *range*=61%-100%*), thinness* (100%, *range*=58%-100%), and *physical beauty* (100%, *range*=63%-100%). These numbers are consistent with our previous studies and reflect reliable evaluations given the complexity of coding motion picture content. It must be noted that one equally trained coder from Summer 2010 evaluated one film in the sample (along with two coders trained from subsequent terms).

After median reliability coefficients and unitizing agreement are calculated, but before data is entered for analysis, RA's assigned to the same film met to discuss any disagreements they had

in unitizing and variable coding. Every judgment with less than majority agreement (i.e., less than 50% of the coders agreed) was discussed in group meetings supervised by one of the study's authors. These discussions finalized the coding of each film making the data as accurate as possible before analysis. For twelve films in the sample, group discussions were not possible. Subsequently, the author responsible for moderating discussions passed judgment where there was disagreement.

During an earlier study (Smith et al., 2010), it was discovered that two of the appearance indicators (waist size and body realism) were lacking face validity. Though reliable, the research assistants from Fall, Spring, and Summer 2009 were not using the full range of options and deferring to "average" or "not ideal" on most of their decisions. For instance, Cecelia Tallis in *Atonement* (played by Keira Knightley) was coded as having an "average" waist. Upon examination of the visual images in codebook, we realized that the examples of "small" waists for females were extreme and did not feature many images of males. Both of these issues affected coders' judgments. Because very few characters possessed a "small waist," the coders' evaluations of body realism were also impacted.

Given this, we edited the text and pictures for waist size in our codebook. We introduced these measures to the Spring 2010 group and retrained an additional small cohort of coders (*n*=5 from Fall of 2009) on both variables. The small group had to be evaluated for reliability on the revised indicators. Using the Potter and Levine Donnerstein (1999) formula, the median coefficients across three diagnostics are 80% for *waist size* (*range*=79.9%) and 100% for *body realism* (*range*=100%). After these tests, the coders re-evaluated all of the Fall, Spring, and Summer (2009) groups' decisions on waist and body realism during the Spring of 2010. Only one coder "re-evaluated" each film and we did not conduct additional reliability diagnostics. As a result, the findings for waist and body realism should be interpreted with caution.

Because different groups of research assistants might code differently based on the term they were trained, we tested to see if there were any coding differences across cohorts. We only examined the three large groups (Spring 09, Fall 09, Spring 10), as the summer RA's coded so few films. To conduct this analysis, we stipulated that three criteria had to be met prior to rendering group differences in coding and/or training on a variable: 1) the chi squares (term coded by variable for males and females separately) had to be significant at $p < .05$; 2) one term's (Spring 09, Fall 09, Spring 10) percentage on a variable level does not come within 5% of any other term's percentage on the same variable level; and 3) the pattern for males and females is in the same direction. When all three conditions were met, we concluded that the variable was being coded differently across groups.

Only one variable met all three criteria: thinness. This makes sense given that the percentage of thin characters in this sample (2006-09, males=16.7%, females=42.7%) was higher than we have witnessed in our other investigations (1990-06, males=11.9%, females=33.5%; 2007, males= 8.5%, females=32%). Therefore, the differences in thinness in the current sample are most likely due to a change in coding across terms rather than an industry change. As a result, we decided to not report thinness in the text but rather in this footnote.

[6.] Two types of significance were examined for each analysis: statistical and practical. Statistical significance was set at the conventional $p < .05$ level. In terms of practical significance, we mandated that a 5% difference had to be observed between any two percentages

being compared. The latter step was important as our analyses involved a large sample size of characters which could yield statistical but inconsequential differences (1-2%) between percentages.

7. The chi-square for *film rating* (G, PG, PG-13) by *character gender* (male, female) is X^2 (2, 5,554)=7.67, *p < .05, V*=.*04.

8. The analysis revealed a significant relationship between *character age* and *character gender*, X^2 (3, 5,343)=123.89, *p < .05, V*=.*15.

9. The analysis for *sexy attire* and *character gender* was significant, X^2 (1, 4,847)=455.12, *p <* .05, φ=.31.

10. Significant chi-square analyses were obtained for *character gender* and *physical beauty*, X^2 (1, 5,551)=199.46, *p < .05*, φ=.19; *character gender* and *nudity*, X^2 (1, 4,846)=196.12, *p < .05*, φ=.20; *character gender* and *waist size*, X^2 (1, 3,750)=294.67, *p < .05*, φ=.28. *Character gender* varied significantly but trivially (less than 5% difference) with *chest size* and *unrealistic body ideal*, respectively: X^2 (1, 4,621)=5.72, *p < .05*, φ=-.03; X^2 (1, 3,987)=44.67, *p < .05*, φ=.11.

11. To assess content creator biological sex, we first created a list of all the directors (e.g., director, co director), writers (e.g., story, screenplay, characters, dialogue), and producers (e.g., executive, associate, line) per film based on information supplied by Internet Movie Data Base Pro (www.pro.imdb.com). Using gender-related information from this website as well as inBaseline (www.inbaseline.com), we categorized each industry worker as male or female. In instances where photos, pronoun use, or gendered titles/referents (i.e., husband/wife, actor/actress, sister/brother) are not listed, we scoured the Internet or contacted the individual directly. Out of 1,570 directors, writers, and producers, 11 were not identifiable. Six of these names were coded male or female by using a website that indicates traditionally masculine or feminine names (http://www.babynameshq.com/). Of the five remaining names, three were international, one was gender neutral, and 1 was an anonymous entry. As such, these five individuals were not included in Figure 2 or any of the analyses. Thus, the actual number of names was 1,570 with 1,565 possessing an identifiable gender and 5 without an identifiable gender. It must also be noted that all name related information for directors, writers, and producers on the films was collected from IMDb.Pro during the first quarter of 2010. On June 8-9th, 2010, we rechecked the IMDb.Pro lists online and updated any new names that had been added. Those names are included in Figure 2 and the statistical analyses.

12. Three chi square analyses were executed: *character gender* by *director gender*, X^2 (1, 5,554)=7.45, *p < .05*, φ=.04; *character gender* by *writer gender*, X^2 (1, 5,554)=62.60, *p < .05*, φ=.11; *character gender* by *producer gender*, X^2 (1, 5,554)=5.21, *p < .05*, φ=.03. The latter analysis failed to reveal a practical difference (5%), however.

13. Smith, S. L. (2010). *Gender oppression in cinematic content? A look at females on-screen & behind-the-camera in top-grossing 2007 films* (http://annenberg.usc.edu /News%20and%20 Events/News/~/media/PDFs/07GenderKey.ashx). Smith, S. L., Choueiti, M., Granados, A. & Erickson, S. (2008). *Asymmetrical Academy Awards? A look at gender imbalance in best*

picture nominated films from 1977-2006. http://annenberg.usc.edu/Faculty/Communication /~/media/93914BE9EB5F4C2795A3169E5ACDB84F.ashx

14. Smith, S. L., & Cook, C. A. (2008). *Gender stereotypes: An analysis of popular films and TV*. Los Angeles, CA: Geena Davis Institute on Gender in Media.

15. As noted earlier, coders were given cast lists from IMDb.Pro and instructed to use closing credits to increase unitizing accuracy. Further, we now stipulate that multiple research assistants code each film independently and subsequently meet in small groups to discuss disagreements. Unitizing and variable reliability are now computed per film. By having multiple coders evaluate and discuss every movie in the sample, we heighten the precision of detecting every speaking character shown on screen. In addition, some variables' text, visual referent, training, and instructor in charge of training have changed from the last investigation to the present.

16. We excluded 14 G-rated films from our 1990-06 sample for one of three reasons: 1) the original release date was pre 1990 (*Snow White, Wizard of Oz, Gone with the Wind, Fantasia, The Little Mermaid, 101 Dalmatians, Oliver & Company, Pinocchio, Great Mouse Detective, The Adventures of Milo & Otis, Jungle Book*); 2) the re-release featured an earlier motion picture with only a new song or scene added (*The Lion King, LSF; Beauty & the Beast, Special Edition*); 3) the film did not feature one unfolding fictional narrative but rather several shorts or mini films some of which depicted vintage content (*Fantasia 2000*). Our exclusion list here deviates from our original overtime analyses (*n*=11; see Smith & Cook, 2008). No statistical differences (as defined above, *p* < .05 and 5% difference) emerged in gender prevalence over the three epochs of time with 11 or 14 exclusions.

17. Content creators may develop, cast, and market potentially high-grossing films differently than those anticipated to make less money at the box office. In explanation, top-performing films may feature more male characters to appeal to all four quadrants of movies goers. This may be based on the rationale that male movie-goers shy away from stories about females. Female movie-goers, on the other hand, will watch stories about males and/or females. Films anticipated to make less money at the box office and via other distribution windows may not be under the same content and marketing constraints as tent-pole pictures.

18. A list of all G-rated films theatrically-released between 1990 and December 31st, 2009 was purchased from Rentrak Corporation. A total of 287 general audience films were on the list. One hundred and thirty seven movies were excluded because they fit into one of the following categories: 1) documentary or re-created reality (*n*=41), 2) re-release (*n*=35; film was shown either in theatres originally pre 1990 or was released more than once in our sampling time frame), 3) foreign language (*n*=10), 4) Kidtoon content (*n*=45; i.e., monthly matinee movies for 3- to 9-year olds exhibited at select U.S. theatres); 5) not available for rent or purchase (*n*=3); 6) released past September 7th 2009 (*n*=2); or 7) fictional narrative absent (*n*=1). After exclusions, a total of 150 films remained on the list of first run theatrically released English language G-rated films.

As noted above, 107 G-rated films had already been coded across our two studies (86 in our earlier study; 21 in our current study). The remaining 43 films were evaluated by nine trained coders and one of the study's authors (Choueiti). Each movie was coded by 2 or 3 coders. Dividing the sample into quarters, the percentage of agreed upon speaking characters by at least

two coders are distributed across the sample as follows: *Q1* (100%-93.33%), *Q2* (92.86%-86.96%), *Q3* (86.49%-81.25%), and *Q4* (80.0%-57.14%). Only one film had less than 60% of the speaking characters seen by at least two coders. The median reliability coefficients were 100% for *biological sex* (*range*=84%-100%) and 100% for *form* (*range*=100%), which was calculated using Scott's Pi for films with two coders and Potter and Levine-Donnerstein's (1999) formula with three coders.

[19.] The chi square analysis approached significance for *character gender* and *time* in G-rated films: X^2 (3, 4,747)=7.33, *p* = .062, V*=.04.

[20.] Two re-releases were removed in the PG sample prior to analysis: *Empire Strikes Back* and *Star Wars: A New Hope*.

[21.] The chi-square for *character gender* by *time* in PG films was not significant, X^2 (3, 5,784)=2.30, *p* = .51, V*=.02. In terms of movies, the total number by time are as follows: 1990-95 (*n*=27 films); 1996-00 (*n*=22 films); 2001-06 (*n*=49 films); and 2006-09 (*n*=50 films).

[22.] For PG-13 films, the *character gender* by *time analysis* approached significance, X^2 (1, 6,942)=6.71, *p* = .082, V* =.03. the total number of films in the analysis by time are as follows: 1990-95 (*n*=12 films); 1996-00 (*n*=33 films), 2001-06 (*n*=55 films); and 2006-09 (*n*=50 films).

[23.] American Psychological Association (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

[24.] Smith, S. L. (2010). Smith et al., (2008).

Appendix A
List of Films in the Sample

WALL-E	Shrek the Third	Dark Knight, The
Ratatouille	Harry Potter and the Half Blood …	Transformers 2: Revenge of the …
Dr. Seuss' Horton Hears A Who	Up	Spider-Man 3
Meet the Robinsons	Night at the Museum	Transformers
High School Musical 3	National Treasure: Book of Secrets	Iron Man
Santa Clause 3	Alvin and the Chipmunks	Indiana Jones Kingdom of the …
Charlotte's Web	Kung Fu Panda	Pirates of the Caribbean
Hannah Montana the Movie	Monsters vs. Aliens	Harry Potter & the Order of the …
Tale of Despereaux, The	Happy Feet	Star Trek
College Road Trip	Ice Age 3: Dawn of the Dinosaurs	I Am Legend
Mr. Bean's Holiday	Madagascar Escape 2 Africa	Hancock
Mr. Magorium's Wonder Emporium	Night at the Museum 2: Batttle …	Bourne Ultimatum, The
Space Chimps	Paul Blart Mall Cop	Twilight
Kit Kittredge: An American Girl	Marley and Me	Simpsons Movie, The
Ponyo	Chronicles of Narnia Prince Caspian	X-Men Origins: Wolverine
Fly Me to the Moon	Fantastic Four: Rise of the Silver …	Quantum of Solace
Everyone's Hero	Enchanted	Wild Hogs
Pirates Who Don't Do Anything …	Bee Movie	Casino Royale
Romeo & Juliet: Sealed with a Kiss	G-Force	Proposal, The
Moondance Alexander	Hairspray	Pursuit of Happyness
City Lights	Bolt	Fast & Furious
Velveteen Rabbit	Bedtime Stories	GI Joe
	Journey to the Center of the Earth	Taken
	Evan Almighty	Mamma Mia!
	Beverly Hills Chihuahua	Juno
	The Game Plan	Rush Hour 3
	Open Season	The Incredible Hulk
	Bridge to Terabithia	Live Free or Die Hard
	Coraline	Angels & Demons
	Eragon	Get Smart
	Hotel for Dogs	The Curious Case of Benjamin …
	Fred Claus	Terminator Salvation
	The Spiderwick Chronicles	Four Christmases
	Rocky Balboa	I Now Pronounce You Chuck and ...
	Race to Witch Mountain	Blades of Glory
	Flushed Away	Ocean's Thirteen
	Surf's Up	Ghost Rider
	Bride Wars	Dreamgirls
	TMNT	The Mummy: Tomb of the …
	Are We Done Yet?	Eagle Eye
	Nim's Island	You Don't Mess With the Zohan
	Confessions of a Shopaholic	Yes Man
	Speed Racer	Norbit
	Underdog	10,000 B.C.
	We Are Marshall	Julie & Julia
	No Reservations	He's Just Not That Into You
	The Water Horse: Legend of the …	The Bucket List
	The Nativity Story	Tyler Perry's Madea Goes to Jail
	The Pink Panther 2	Valkyrie
	Star Wars: The Clone Wars	Beowulf